VOL. XXXVIII NOVEMBER, 1918 No. 5

ARCHITECTURE

The PROFESSIONAL ARCHITECTURAL MONTHLY

CONTENTS

TEXT PAGES

THE ARTS OF FIRE AND THE DEVELOPMENT OF ARCHITECTURE. Concluded. (Illustrated.) *By William Laurel Harris* - Pages 291–294

"OATLANDS," THE OLD MANICE RESIDENCE, QUEENS, L. I. Now the Turf and Field Club. (Illustrated.) - Pages 297–300

EDITORIAL: "Don't Let the Bolsheviki Get You," "The Problem of Construction Costs," "New York's Altar to Liberty and the Avenue of the Allies" - Pages 301–302

AFTER-WAR CONSTRUCTION PROBLEMS *—Engineering News Record* - Page 303

A STATEMENT FROM THE NATIONAL FEDERATION OF BUILDING INDUSTRIES - Page 303

THE BRUGES MARKET AND BELFRY - Page 305

BOOK REVIEWS - Page 305

THE NEW DEPARTMENT AT THE METROPOLITAN MUSEUM OF ART - Page 305

THE INDEXING AND FILING OF TECHNICAL ARTICLES AND ILLUSTRATIONS IN AN ARCHITECT'S OFFICE *By Harry Leslie Walker, M. A. I. A.* - Pages 312–317

LEGAL DECISIONS *By John Simpson* - Pages 317, 319

FUNCTIONS, POWERS AND DUTIES OF THE NATIONAL WAR LABOR BOARD - Page 320

INDUSTRIAL RUIN IN FRANCE - Page 320

PLATES AND ILLUSTRATIONS

THE BELFRY OF BRUGES - Frontispiece

HOUSING FOR WAR WORKERS, WASHINGTON, D. C. United States Housing Corporation - Pages 295, 296
Waddy B. Wood, Architect

NEW YORK'S ALTAR TO LIBERTY - Plate CLXXIV
Thomas Hastings, Architect

RESIDENCE, FIELD POINT PARK, GREENWICH, CONN.
- Exterior - Plate CLXXV
- Hall and Staircase - Plate CLXXVI
- Dining-Room - Plate CLXXVII
- Library - Plate CLXXVII
- Entrance - Plate CLXXVIII
- Plans - Plate CLXXVIII

Cross & Cross, Architects

BUILDING FOR SOCIETY FOR RELIEF OF DESTITUTE BLIND, NEW YORK
- Exterior - Plate CLXXIX
- Chapel - Plate CLXXX
- Entrance - Plate CLXXXI
- Plan - Plate CLXXXI

M. L. & H. G. Emery, Architects

RESIDENCE, JOHN CHANDLER MOORE, OYSTER BAY, LONG ISLAND
- Main Entrance - Plate CLXXXII
- Front - Plate CLXXXIII
- Rear - Plate CLXXXIII
- Living-Room - Plate CLXXXIV
- Portico - Plate CLXXXV
- Plans - Plate CLXXXV

Charles I. Berg, Architect

THIRD NATIONAL BANK, SCRANTON, PA.
- Exterior - Plate CLXXXVI
- View of Banking-Room - Plate CLXXXVII
- Detail of Bronze Grille - Plate CLXXXVII
- Plan - Plate CLXXXVIII

Edw. Langley, Architect

MEASURED DRAWINGS: EARLY ARCHITECTURE OF MARYLAND
- Doorway, Montpelier, Md. - Plate CLXXXIX

Measured and Drawn by J. L. Keister and O. J. Munson

NURSES' HOME, WEST 45TH STREET, NEW YORK - Page 304
Tracy & Swartwout, Architects

SHIPWORKERS' HOMES AT GROTON, CONN. FOR THE EMERGENCY FLEET CORPORATION, U. S. SHIPPING BOARD - Pages 306–309
Eugene J. Lang, Architect

U. S. A. GENERAL HOSPITAL, NO. 21, DENVER, COLO. - Pages 310, 311
Construction Division, U. S. Army

SEATON PARK BUILDINGS, UNITED STATES GOVERNMENT OFFICES, WASHINGTON, D. C. - Pages 310, 311
Waddy B. Wood, Architect
For Construction Division, U. S. Army

HOUSE, CHARLES KIELY, PELHAM MANOR, N. Y. - Page 318
Julius Gregory, Architect

ARCHITECTURE, edited in the interest of the profession, is published the fifteenth of every month by CHARLES SCRIBNER'S SONS (Charles Scribner, President), Fifth Avenue at 48th Street, New York.

PRICE, mailed flat to any address in the United States, Mexico, or Cuba, $5.00 per annum in advance, 50 cents a number; to Canada, $6.00 per annum; to any foreign address, $7.00 per annum.

ADVERTISING RATES upon request. The writing and displaying of Advertisements is an art in itself, and the publishers will be pleased to give the Advertiser the benefit of an Expert's experience in this line at no additional expense.

Copyright, 1918, by CHARLES SCRIBNER'S SONS. *All rights reserved.*

Entered as Second-Class Matter, March 30, 1900, at the Post-Office at New York, N. Y., under the Act of March 2, 1879.

Bishopric Board Makes This a Lasting Home

When Architect R. G. McDowell designed this stucco residence in Des Moines, Iowa, he planned for long life as well as artistic beauty—and he specified Bishopric Board for the stucco background.

The advantages of Bishopric Board are *obvious.* Note its construction in the illustration below. It's "Built on the Wisdom of Ages," combining principles used in building Solomon's Temple with the best methods in use since that time.

Bishopric Board is made of creosoted lath imbedded in Asphalt Mastic on a background of heavy fibre-board.

When applied the stucco is dovetailed into the lath. They are welded together into one solid piece. The stucco *can't* let go. And nails thru each and every lath hold the Stucco Board firmly to the frame-work.

The fibre-board, Asphalt Mastic, and creosoted lath give absolute protection against heat and cold, wind and weather. They form a combination that is water, vermin and sound proof.

Bishopric Board is *dependable.* It can't sag—the stucco can't crack and break away—and it adds to the life of the building. Investigate and be convinced.

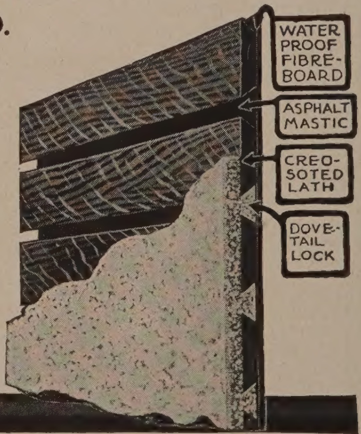
The Bishopric Manufacturing Co.

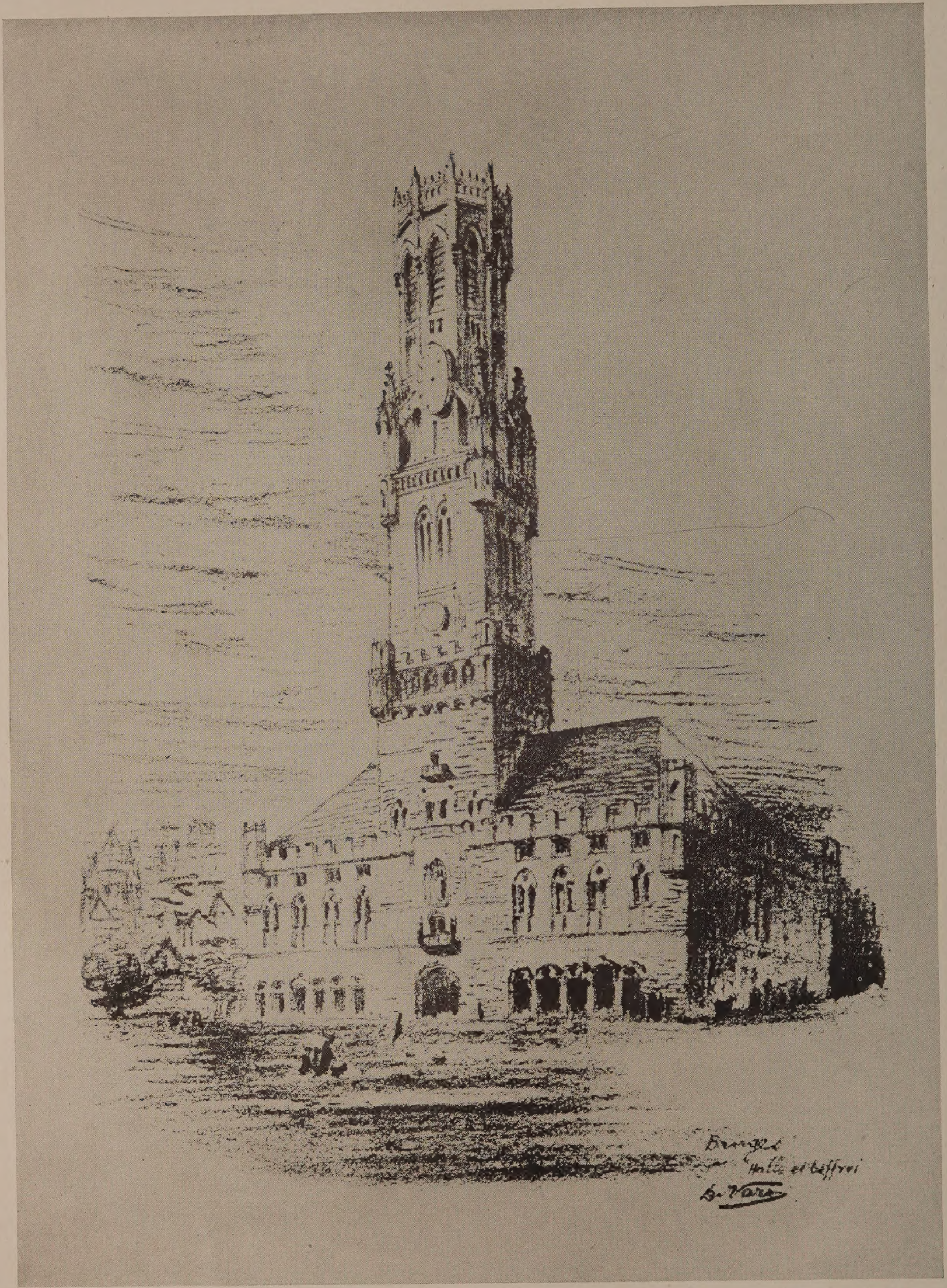
912 Este Ave. Cincinnati, O.

THE DOVETAILED KEY
"LOCKS THE PLASTER"
BISHOPRIC
STUCCO OR PLASTER
BOARD
TRADE-MARK REGISTERED

Write for our free book "Built on the Wisdom of Ages," illustrating homes, apartments, factory and public buildings finished in stucco on Bishopric Board. It contains letters from architects, builders and users, and extracts from reports of scientific tests. It also gives full instructions for making a stucco mixture that will last. With this book we send free samples of Bishopric Board.

Write *today,* investigate for yourself.





THE BELFRY OF BRUGES.

From a charcoal drawing by David Varon.

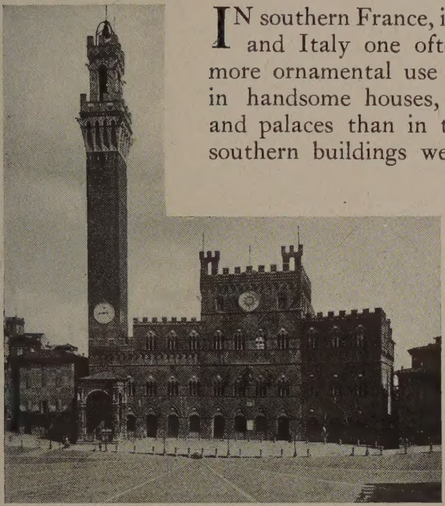
ARCHITECTVRE

THE PROFESSIONAL ARCHITECTURAL MONTHLY

Vol. XXXVIII NOVEMBER, 1918 No. 5

The Arts of Fire and the Development of Architecture

By William Laurel Harris



The town hall at Siena, an interesting example of Italian ceramic architecture.

IN southern France, in Spain, Portugal, and Italy one often finds an even more ornamental use of brick and tiles in handsome houses, public buildings, and palaces than in the north. These southern buildings were of classic masonry though contemporaneous with the half-timbered houses of northern France. While the quaint old mediæval houses of the north were built on very modern lines, each floor carrying its own weight as in our skyscrapers of to-day, the ceramic buildings of the south were for the most part conceived on the plain, simple, and time-honored principles of piers, columns, arches, arcades, and cupolas. This style of building with solid walls can, of course, be traced back to the ancient Etruscans, to the Babylonians, the Assyrians, or perhaps the Medes and Persians, if one is an expert in questions of remote historical research or wishes to qualify as an antiquarian.

The ancient classic traditions of brick building never appear to have quite died out in Italy and France, though the ceramic arts as applied to architecture received a new and added impulse and an increased glory through strong Asiatic, Byzantine, and African influences from time to time. These influences from the East appeared with peculiar force and splendor at Ravenna during the fifth century, when powerful Byzantine exarchs ruled the Italian provinces.

The castle at Fontanellato, near Parma, an example of twelfth-century brick building.

Many of these early Byzantine brick structures built in Italy are dull and uninteresting on the exterior, while the interior decorations are of exquisite beauty and reveal to our inartistic generation the matchless splendor of ceramic decorations as practised in the East.

The blue and gold, the radiant yellows and sombre greens of the ceramic cubes that glorify the tombs and churches of Ravenna, remind us forcibly of the great and matchless triumphs of craftsmanship in Santa Sophia and other famous buildings at Constantinople. Such masterpieces of architectural design and decorative arrangement as the fifth and sixth century churches at Ravenna amply repay long and patient study on the part of our artists and art workers to-day. Somewhat later than these ponderous buildings at Ravenna, churches and palaces were constructed and decorated at Torcello and at other cities of Venetia which were less formidable and fortress-like in their general lines and much more ornamental in the details of their brickwork. At Santa Fosca on the Island of Torcello, and in numerous other buildings on the mainland, skilful architects and designers introduced lines of well-considered ornament that demonstrate for us to-day the real and essential values of exterior brick architecture as utilized for towers, steeples, façades, and cloisters. In many of the most famous churches of southern France and northern Spain one can discover innumerable charming decorative designs worked out in the simplest of ceramic materials.

A decorative panel in ceramics by Giovanni della Robbia. Now in the National Museum at Florence.

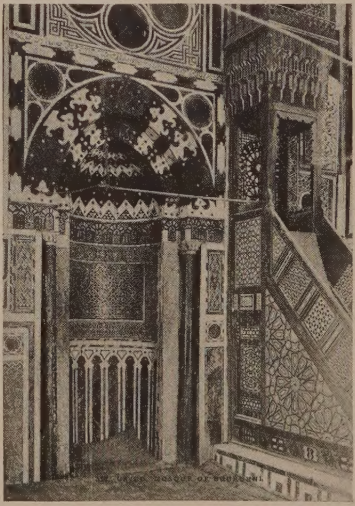
Beginning with the arches and arcades of Santa Fosca at Torcello one can trace by following the ordinary avenues of Byzantine trade a wonderful array of superb brick buildings in which the decorative values and structural advantages of ceramic cubes and rectangles were employed with exquisite craft and skill.

Our more astute constructors of the twentieth century have very wisely returned in modern times to study and restudy ancient San Stefano at Bologna, San Ambrogio of Milan, the cathedral at Terracine, and other superb brick churches of Italy and France that were more or less inspired by Byzantine tradition and thought.

Three panels composed of 112 brick tiles, representing one subject; made at Ispahan, capital of Persia, and decorated by Chinese artists.

In Spain and Portugal one sees, moreover, the gorgeous tiles and splendid terra-cottas of Moresque and Egyptian art delightfully adapted to Christian use.

One says adapted, but in point of fact the tiles and terra-cottas of Asia and Africa were utilized and perfected by the Arians, Nestorians, and Copts long before Mohammed preached his gospel of military conquest over Christians, or terrible and relentless Timur destroyed the churches and massacred the inhabitants of Persia and Asia Minor.



A detail of the decoration in El-Burdeni. Ceramics play an important part in the color of the walk.

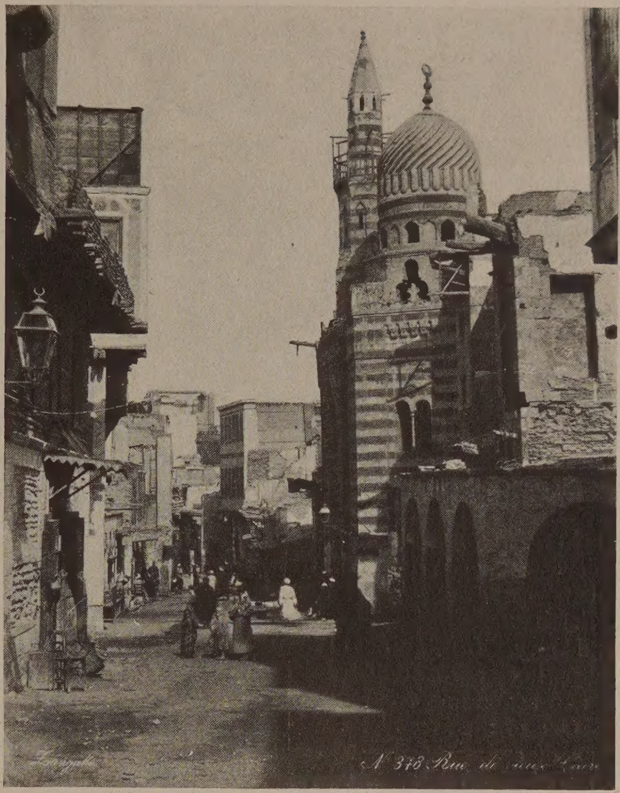
To form a just idea of primitive Christian art and the decorative resources employed in the formerly magnificent churches of Africa and Asia we must now search in dust heaps and among the forgotten ruins of once splendid cities, and afterward compare the discoveries there made with the gorgeous Moslem buildings of Ispahan, Samarkand, Constantinople, Jerusalem, and Tlemçen. Possibly, however, the most valuable field of research that we have to-day as regards the ceramic arts is in the valley of the Nile, where Coptic churches and monasteries still exist which evidently were founded in apostolic times. We now know, moreover, that for many centuries in the valley of the Nile and along the northern littoral of Africa Coptic architects, artists, and craftsmen have labored on the tombs and mosques commemorative of the enterprise, heroism, and glory of their Arabian conquerors.

At Cairo the wonderful minarets of Kalaun, built at the end of the thirteenth or the beginning of the fourteenth century, in their structural forms gracefully receding from a square base to an octagonal or round shaft and cupola, appear to have utilized, with their exquisite arrangements of balconies, consoles, arches, and encorbelment, every architectural resource and beauty possible in a brick building with solid walls. For the most part these exquisite and astonishing ceramic structures of Cairo were designed and decorated by conquered Christians for their military rulers, the Caliphs, Sultans, and Mameluke generals who for centuries dominated Africa and Asia, not only by their keen and far-reaching swords, but also because of their superior appreciation of modern science and engineering and through their love of architectural display.

Time and space will not permit the writer at the present moment to recount in detail the wondrous achievements of brick builders in the ornate and gracious mosque of Ibn Tulun with its beautiful pointed arches built in the ninth century, or to describe the superb funeral monument of the great Barkuk with its vast and awe-inspiring domes and arches, its wonderful minarets and round cupolas, or to relate the history and tell the romantic stories of all those once-venerated shrines near ancient Fostat, now disintegrating under the wear and tear of time.

These glorious buildings are affectionate memorials, strangely and deftly built for mighty Mameluke leaders and

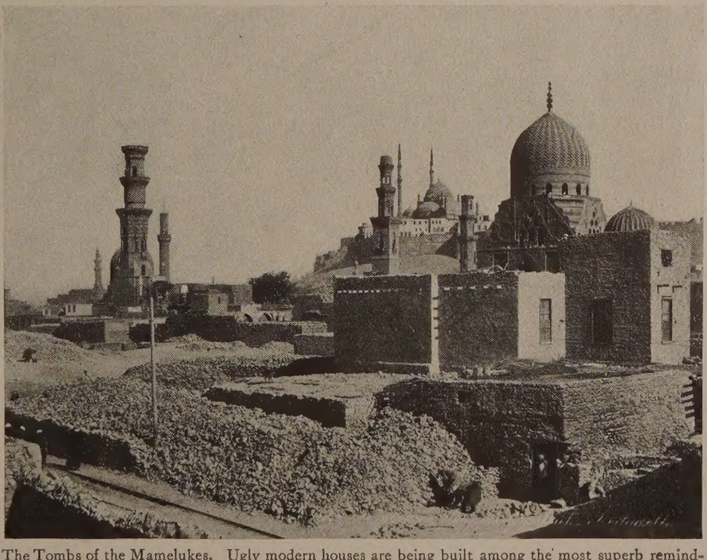
The minarets of Kalaun.


An ancient brick mosque in Cairo stuccoed to look like stone. Many supposedly stone buildings in Cairo are really brick covered with cement.

world-famous Caliphs whose ashes long since vanished, while their magnificent Gamie and Mesgid are still to be seen, though falling hopelessly in ruins and often half buried in the shifting sands of the Egyptian desert beyond the city walls of Cairo. To-day these once gorgeous structures have for us a special and peculiar interest because from their shattered walls we may readily learn forgotten secrets of brick building and ceramics. It is vitally necessary to-day that American architects, artists, and decorators should draw new structural lessons and artistic thought from the potsherds of the East before the wasting forces of destruction and neglect now prevalent can ruin all. We must learn again and practise once more the Arts of Fire.

As the potter grinds his clay and crushes broken potsherds of other potters to make his own work strong and lovely, so we to-day must gather architectural facts, ideas, and inspiration from the dead and broken past.

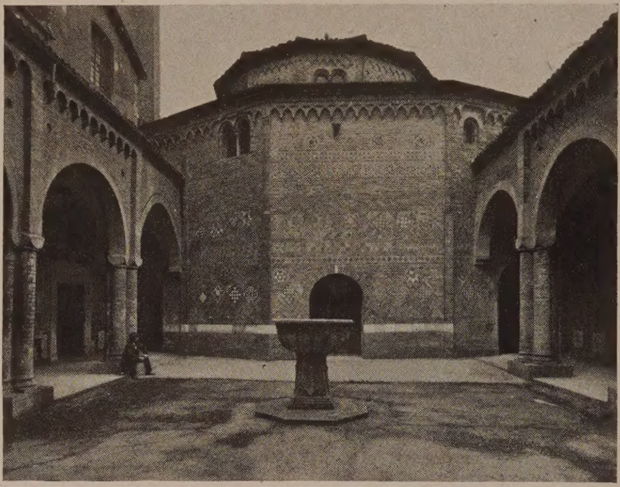
Gathering new wisdom from the shapes of clay, gaining great and inspiring knowledge from the shattered ruins of antiquity, we now must build new forms of art as applied to architecture and modern decorative design. By studying the crumbling walls of Cairo's famous buildings, by learning from the mounds and dust heaps of Babylon or Susa, and by examining the structural methods of mediæval brick builders we can learn to build both more economically and more beautifully than is done to-day.


The Tombs of the Mamelukes. Ugly modern houses are being built among the most superb reminders of ancient ceramic art.

Poets, philosophers, and prophets like the great Omar have reasoned learnedly concerning the wondrous clay products of other days, and have drawn analogies from the fact that our race as well as the innumerable exquisite products of the potter's skill derive form and substance from clay and ashes, and to clay and ashes must return.

Moralists have spoken wise lessons and made learned comparisons concerning the fragile character of the most beautiful or rarest pottery and the transitory nature of human life. Great teachers of religious truths have pointed out that human affairs and high achievements are like a table full of ceramic treasures, liable to sudden and varied accidents, and may often, like the potter's table full of beauteous objects, by sudden catastrophe be upset and shattered hopelessly.

Then, too, it has been remarked that the potter breaks up useless vases, bowls, and tiles, grinding them into powder, and that this powder mixed with new clay makes a better pottery than before. It is not, however, the writer's purpose to have the clay products he writes about speak in poetic terms or argue in philosophy as do the loquacious vessels in the Rubaiyat of Omar. There are more immediate and more definite lessons than the dreams of Omar that we must learn if our country is to prosper. Prodigious and appalling catastrophes have fallen on humanity since the Great War in Europe began, and dire disasters have shattered into fragments like fragile earthenware many high achievements and great monuments once considered everlasting.



The Church of the Holy Sepulchre at Bologna. The blank brick walls are rendered interesting by ornamental patterns worked out in color.

Many fundamental changes in all our methods of life and action now confront us. One of the first of these lessons to be learned is the lesson of economy. Intelligent economy should not only be talked about but must become the general rule if the United States is to hold its own among the nations and if American architecture is to prosper. Stern necessity will force us to consider more carefully the cost of all the buildings we construct, and will undoubtedly induce a more general use of tiles, brick, and faience in architecture. The architects of America will be forced to learn more thoroughly the varied uses that can be made of fine and coarse ceramics, both in the field of decoration and construction.

The present days of war have undoubtedly affected every citizen of the United States, and the increased economic strain will certainly create new conditions in architecture and decoration, conditions which must be met intelligently and well. New styles in art and in all the building crafts will inevitably be developed as an answer to our new building programmes and problems. The thoughtful student of ceramic arts can teach us many ways and means of building that are cheaper than the methods now generally employed and at the same time much more beautiful and better adapted to twentieth-century needs.

To build artistically and at the same time economically we all must now learn to employ more perfectly and wisely the imperishable and beautiful Shapes of Clay to be found within the potter's house as suggested by the words of Omar at the beginning of my first article.

In so learning, building, and designing we will play our appointed part in the great economic tasks of our generation. Each architect, artist, and designer can in this way help in the great and vital work of reconstructing the life and civilization of a disaster-stricken world.

John Leonard Dykeman

Died October 19, 1918

It is with the most sincere regret that we announce the death of John Leonard Dykeman. He was the son of Mr. and Mrs. George A. Dykeman, of Catskill, N. Y., was born in Catskill thirty-five years ago, and was a descendant of an old Dutch colonial family. About six years ago he married Miss Dorothy Jeanette Ullman, of Albany, who survives him.

He was always interested in early American architecture, and some years ago he undertook the measurement and reproduction in line drawing of the Albany Academy. Other work of a similar nature was taken up and a line of study and delineation laid out that promised to embrace every worthy subject in the architecture of old Albany that was still in existence or might be reproduced from such data as could be unearthed by vigorous and intelligent research.

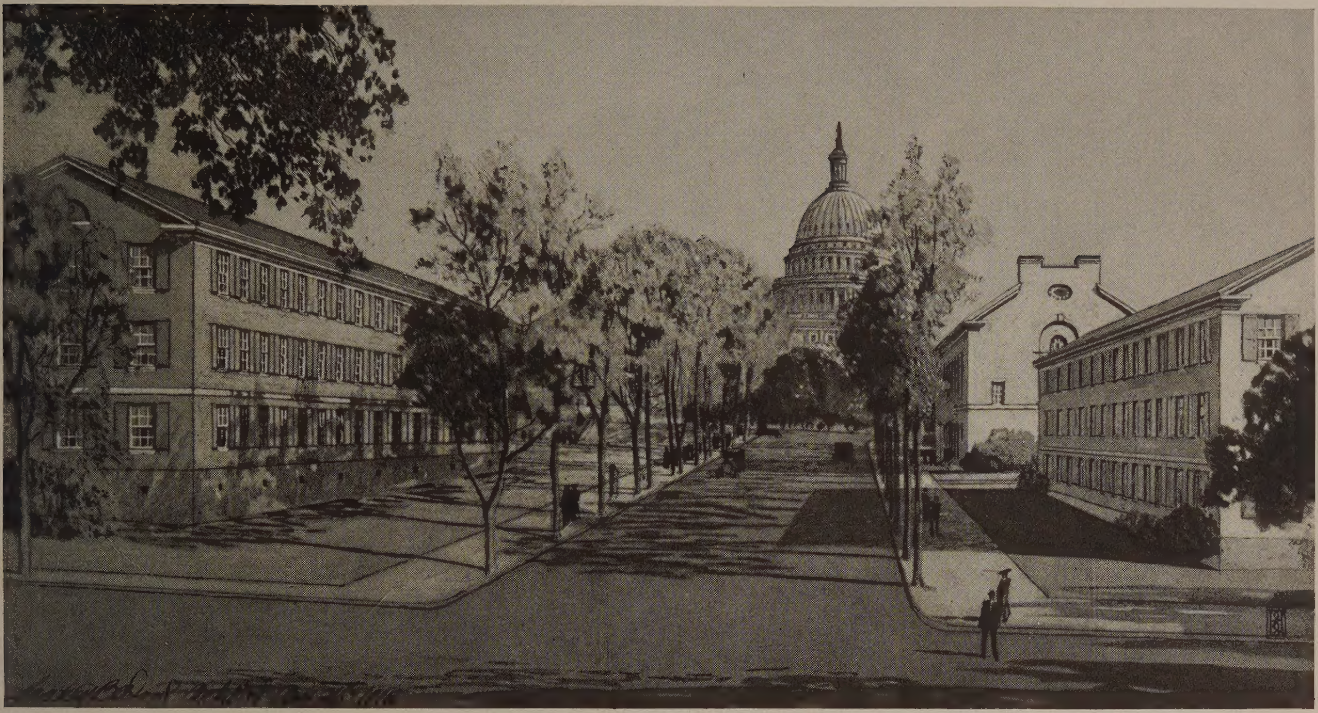
The professional value of his work can hardly be overestimated but its worth is wholly determined by its accuracy. This was assured in anything Mr. Dykeman undertook.

He brought to his tasks a love of his subjects, natural ability, and, above all, a keen, understanding sympathy with the very spirit of the elder day.

He had the same capacity for the taking of infinite pains that is shown in every worth-while example of the work he loved to reproduce. No detail was too insignificant to be carefully studied, and he always tried to get at the genesis of his subject.

To arrive at the beginnings, to realize the inspiration that produced these buildings, Mr. Dykeman had recourse to history, and in his researches it was inevitable that he should meet men identified by inheritance or calling with the landmarks he sought to preserve in his drawings.

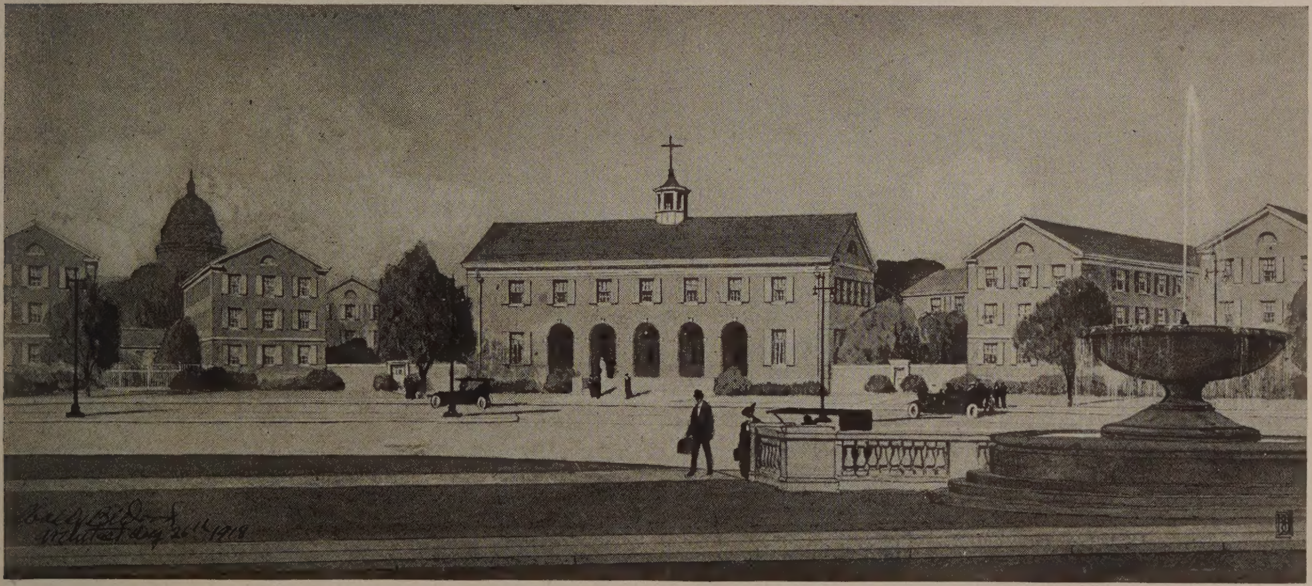
It was the privilege of ARCHITECTURE to publish several series of Mr. Dykeman's invaluable drawings, and he sent to the editor a few days before his death a most interesting series he had just completed that will be published during the coming year.



RESIDENCE HALLS—CAPITOL GROUP.

In the Station and Capitol Groups—to be completed in December—there will be accommodation for 2,000 war workers in the various departments of the government. At the present time the demand for rooms for women workers is the greater. Dormitory rooms will be uniformly 8′ 3″ x 11′ 5″. A small proportion of double rooms will be provided. The dormitories will be three stories high and grouped into separate detached buildings, each consisting of two parallel wings. Each group will be arranged around a large dining-room with ample kitchen capacity. Here, also, is the administration centre. Above this is the auditorium, with stage, dressing-rooms, etc.

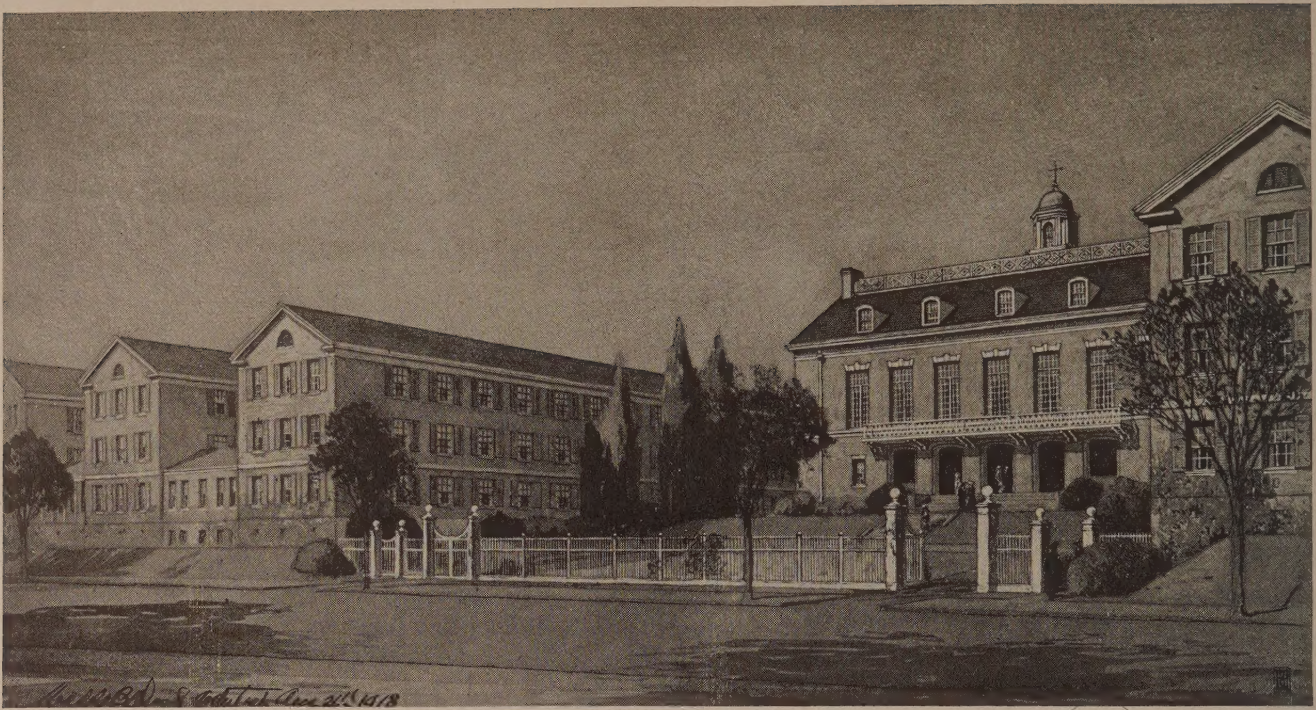
The buildings are of temporary construction. Simple colonial designs have been employed throughout. The district will give the impression of an American city in crown colony days.



LOOKING AT RESIDENCE HALLS FROM UNION STATION—SHOWING STATION PLAZA AND FOUNTAIN.

CAPITOL PLAZA GROUP AND STATION PLAZA GROUP, HOUSING FOR WAR WORKERS, WASHINGTON, D. C.

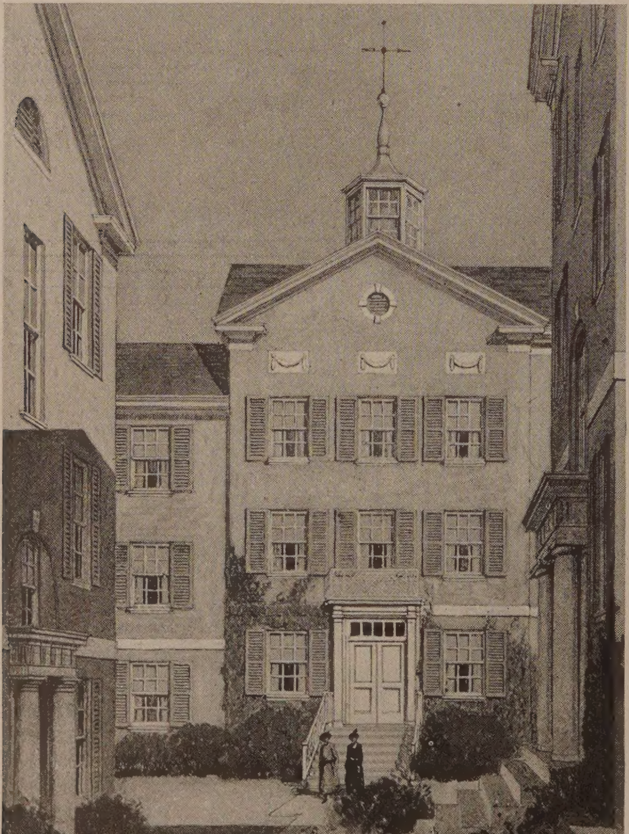
United States Housing Corporation. Waddy B. Wood, Architect.



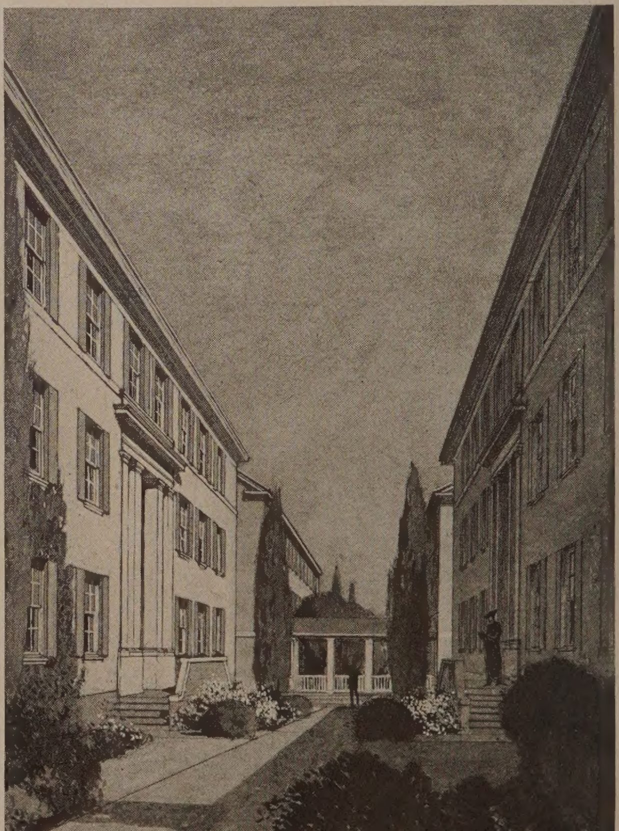
RESIDENCE HALLS—23D AND B STREETS GROUP.

There will be space for 1,500 persons in single rooms with dining-rooms and administration offices. Around this group and cut off from it will be the apartment buildings housing 1,300 persons. These apartments contain living-room, two double bedrooms, kitchenette, and bathroom.

All these buildings are the result of the best advice that could be offered for this type of construction, supplying the particular need and complying with requirements as to time and appropriation. Built on land purchased by the government.



COURT VIEW OF RESIDENCE HALLS—23D AND B STREETS GROUP.



BETWEEN TWO WINGS OF RESIDENCE HALLS.

HOUSING FOR WAR WORKERS, WASHINGTON, D. C., UNITED STATES HOUSING CORPORATION. Waddy B. Wood, Architect.

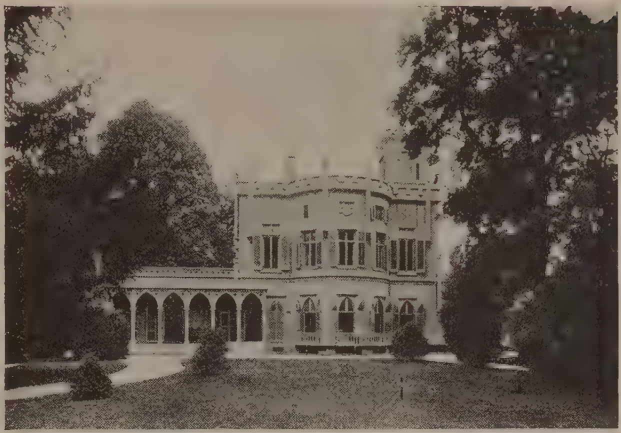
“Oatlands”

The Old Manice Residence—Now the Turf and Field Club—at Queens, Long Island

Editor’s Note.—Architecture is indebted for the historical data to Mr. Madison Grant, of New York, whose mother was Caroline A. Manice, daughter of the late DeForest Manice. Mr. Grant’s boyhood was spent at “Oatlands,” and he has retained his interest there through his connection with the governing board of the Turf and Field Club.

Through the courtesy of Mr. Grant the technical description of the trees and other horticultural features was obtained from Mr. Herman W. Merkel, who had charge of the grounds for many years.

The photographs are by Mr. Elwin R. Sanborn.


North front. Last year’s occupancy by Manice family.

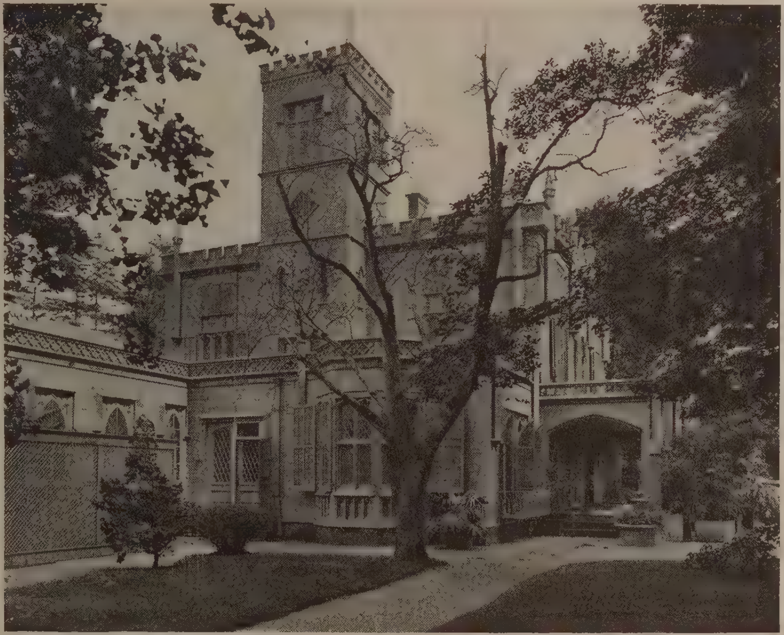
Old entrance gate.

ABOUT the middle of the eighteenth century a few scholars in England interested themselves in the art and architecture of the Middle Ages, which had been neglected throughout the period of the Renaissance. Of these men the most important was Horace Walpole, whose social and political position made his influence an appreciable one. In 1753 he built his famous house at Strawberry Hill in the “pointed style,” which gave to the subsequent work of the Gothic revival the amusing sobriquet, “Strawberry Hill Gothic.” It became the fashion of the day to reproduce in a gentleman’s residence some famous abbey, church, or castle, and the style extended to buildings of size and importance, of which the House of Parliament and Windsor Castle, built in 1826 by Sir Jeffry Wyatville, are probably the grandest and most ambitious.

It has been the fashion of later architects to regard with amused tolerance the buildings of this period, scorning them as being stupid copies or inappropriate adaptations of the old work, and very likely the greater part of this contempt is merited. It is doubtful if Sir Horace Walpole ever took his own use of the style seriously, as the following excerpt from a letter to his friend Field-Marshal Conway would seem to indicate:

“You perceive by my date I am got into a new camp, and have left my tub at Windsor. It is a little plaything house that I got out of Mrs. Chevenix’s shop, and is the prettiest bauble you ever saw. It is set in enamelled meadows with phillagree hedges.

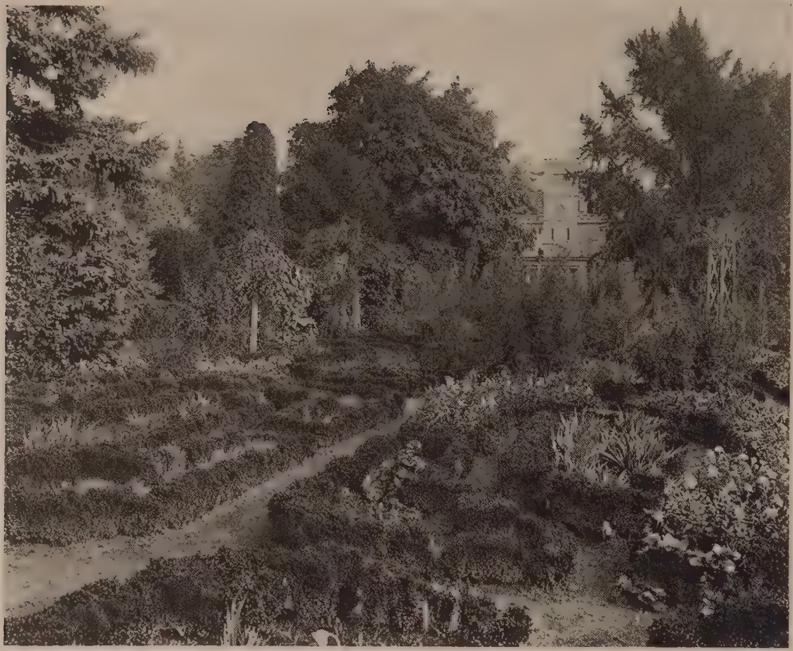
> “ ‘A small Euphratus through the place is rolled,
> And little fishes wave their wings in gold.’


The mansion from the turnpike.

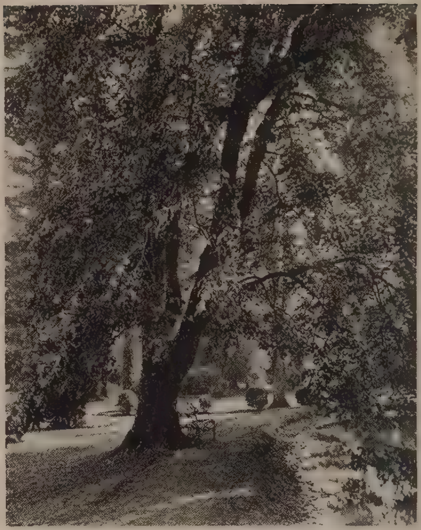
“Two delightful roads that you would call dusty supply me continually with coaches and chaises; barges as solemn as barons of the exchequer move under my window. Richmond Hill and Ham Walk bound my prospects, but, thank God, the Thames is between me and the Duchess of Queensbury.”

Certainly Sir Horace’s followers regarded their works with the utmost seriousness, and a book of designs for “Rural Retreats and Villas,” published in 1802 by an architect named John Maulton, reproduces in its churchly shooting-boxes even the niches of the saints and the saints themselves; of design No. 19 he says: “The present composition is in full luxuriance of gothic embellishment, but which could nevertheless be of easy execution in artificial stone. On a small compact plan is elegant accommodation given for the reception and entertainment of 2 or 3 gentlemen who might choose to have such a residence to resort to during the sporting seasons.” And of another edifice he says: “Design 22 is composed on a very magnificent scale for a hunting lodge: and I have embellished it in a full but chaste style of Gothic ornament.”

The “Strawberry Hill” fashion, of course, spread to America, and a few good examples along with many more poor ones are still to be found. Of them all, perhaps the best in design and state of preservation is “Oatlands,” the



A view of the formal garden with its box-bordered flower-beds.



The Initial Beech at the Fountain Pool.

former estate of the Manice family at Queens, Long Island. The house, constructed of wood, dates in its present form from about 1838, when an earlier residence of the same design was greatly enlarged and elaborated by DeForest Manice, and with its surrounding park, gardens, and stables formed a very delightful and complete country seat.

It is one of the unfortunate consequences of present-day travelling facilities that cities encroach more and more upon their country surroundings until what was considered a goodly journey from town in the days of horses has become a mere half-hour's trip for the scurrying automobile. "Oatlands" is now too near New York to serve the purpose of a country house, but its proximity to the Belmont Park Race Track has saved it from oblivion, and it has met the kindlier fate of having been turned into a club-house. The Turf and Field Club now occupies its dignified rooms and preserves what are left of the once elaborate grounds.

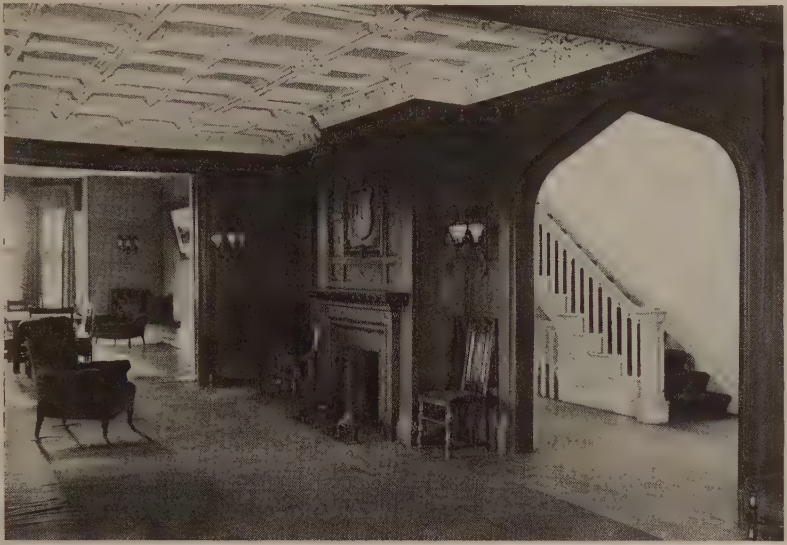
The main driveway from the turnpike, with the gates and the old fence of white pine paling, are now obliterated, as are also the Manice woods on the north side of the residence, which were cut down to make room for the Belmont Park Race Track, but the old entrance lodge is well preserved. The drive formerly entered the place near its western limit, circled through the forest and a part of the park, and then approached the residence through a fine avenue of conifers, emerging again to the turnpike through the present entrance.

The grounds have the broad sweep and spacious dignity of the English park, together with the air of stability which belongs to the British country place. Having entered the broad belt of pines and spruces which once bordered the bridle-path that encircled the place, one has stepped out of our hustling country, with its passion for "immediate effects," into the demesne of a true householder, who built his house, laid out his grounds, and planted his gardens

Cedar of Lebanon.

The Cathedral Beech, a splendid tree, probably the first of its kind planted in America.

with an eye to their permanence. Box bushes 14 feet high and 36 feet in circumference are here, old yews of unusual spread, huge rhododendrons, espalier pears with thick trunks and gnarled branches that still bear the lead labels with the names of their varieties—Beurre Hardy, St. Michel, and Belle Lucrative.



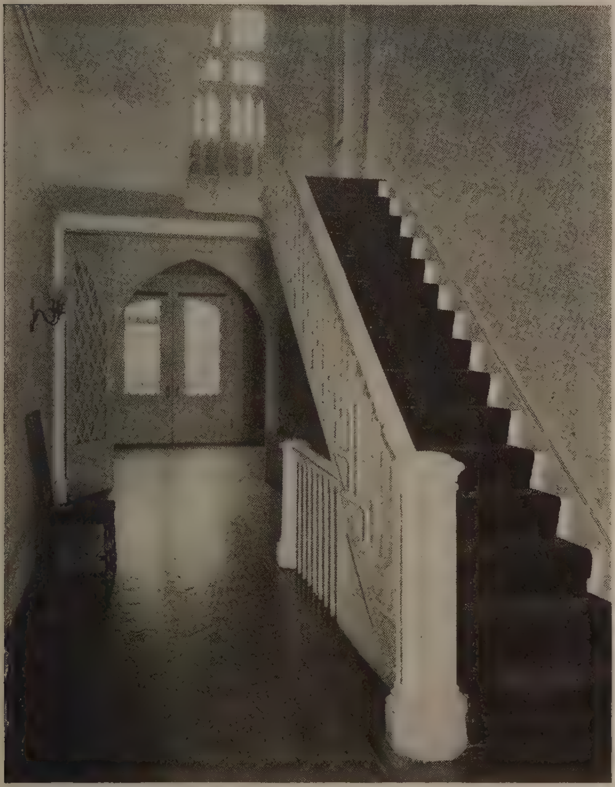
The south parlor, now the club-room of the Turf and Field Club.

The founder of "Oatlands" possessed a true horticultural interest, as the many unusual sorts of trees testify; a cedar of Lebanon (reputed to have been brought from the Holy Land by William DeForest Manice) spreads its horizontal branches over the green lawn, magnolias of various sorts grown to immense size, a Japanese cedar, slow-growing American hollies finer than any to be found north of the Delaware, a perfect specimen of gingko-tree between seventy-five and eighty years old, and two very impressive weeping beeches. One of these is known locally as the "Cathedral Beech," because when one has penetrated the solid wall of foliage formed by its drooping branches the effect inside is truly that of a church, with the branches of the tree forming the vaulted ceiling and the dense foliage, through which the sunlight flickers in a subdued way, the ceiling. The other tree of this species growing on the bank of the pool is known as the Manice or initial tree, because several generations of Manices carved their initials in its smooth bark.

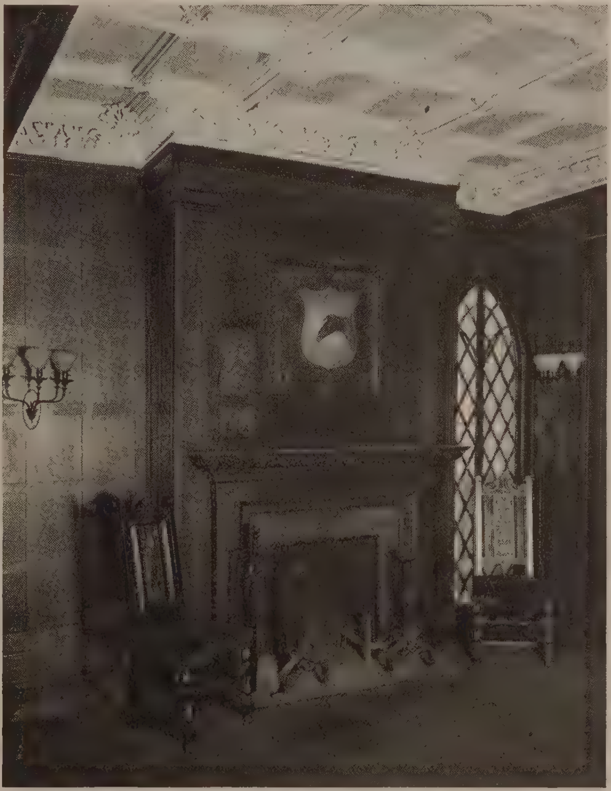
From an historical point of view, perhaps the most important tree on the place is a European linden near the southeast corner of the house, under which, according to tradition, the unhappy Louis Philippe of France spent many summer afternoons during the period of his exile in this country.

There are many other interesting trees to be found here: old Spanish chestnuts (unfortunately stricken by the chestnut blight of five years ago), elms, hemlocks, maples, hickories, and a sycamore maple with variegated foliage. The place is a mine of delight for the horticulturist.

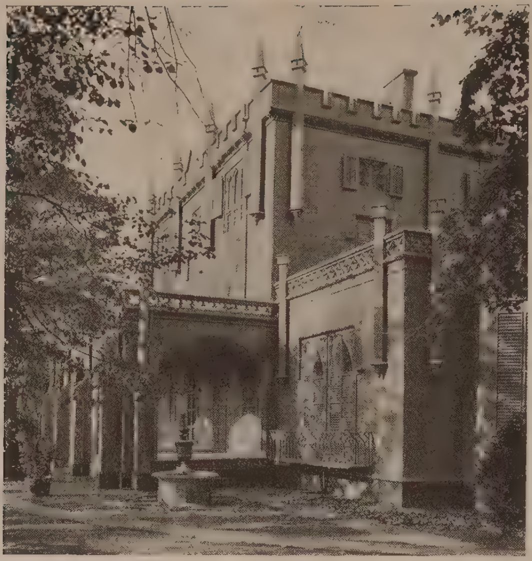
Separated from the rest of the grounds by an ancient arbor-vitæ hedge and old vine-covered trellises is the flower garden. It is of formal design with box-edged parterres, and is worth studying both from the point of view of design



The hall and staircase.



Detail of mantel and old plaster ceiling.



Detail of mansion.

and from that of its interest as a type of early American garden. It lies to the west of the house, next the conservatory, in which bananas, guavas, pomegranates, and jasmine were grown. A glass passage for "air plants," as orchids seem to have been called in those days, formerly connected the conservatory with the house.

The drive approaches the residence through a fine avenue of conifers.

The interior trim and woodwork of the house are all Gothic in detail, and the furniture was especially designed and made to fit the house. Unfortunately, no photographs of the heavy old beds and solemn chairs are available, but it would be an interesting piece of restoration to collect and replace them in their original places.

Major F. L. V. Hoppin added a wing to the house at the time it was turned over to the Turf and Field Club, and performed his difficult task of keeping the addition in spirit with the old house very successfully.

It is to be hoped that this unusually good example of a type of architecture rare in this country will be worthily preserved for many generations to come.

Chinese white magnolia and hemlock.

Giant box bushes of perfect symmetry.

The Great Durability of Wood Construction

ONE of the most remarkable instances of the permanency of wood construction has been found by John H. Kirby, president of the National Lumber Manufacturers' Association, in the romantic and picturesque old mission church of San Xavier Del Bac, nine miles from Tucson. The huge wooden doors which have swung open to countless thousands are to-day performing the service they performed when the famous old mission was built, more than two hundred years ago.

Founded in 1692, the mission, which many claim to be even more beautiful than the missions of California, was conducted continuously by resident Jesuits until 1751. Then for a few years it was administered as a vista from Tubac, and in 1767, following the Spanish expulsion of the Jesuits, was turned over to the Franciscans. This order continued the work of the mission until 1827, when Mexico expelled all the religious orders.

For a number of years the mission was practically abandoned. After the Gadsden Purchase in 1854 it came into the diocese of Santa Fé, but not until 1866 were the missionaries from the New Mexico city able to reach the Santa Cruz valley and take up the work there.

The pine doors which have done service for so long a period were, according to tradition, a part of the original building completed in 1699. When this original structure was demolished in 1793 the doors were saved from ruin and made a part of the present building, which is built of brick and stone and is of a Moorish-Byzantine type of architecture.

Editorial and Other Comment

Don't Let the Bolsheviki Get You

THERE has been an amusing amount of discussion as to the changing aspects of the architect's profession, much of it manifestly based on individual interpretations of the code of the Institute. A recent letter expressed, it seems to us, the crux of the discussion in saying that, after all, the code is only a gentlemen's agreement and that no one who conducted his business on honorable lines need feel that the code put any undue restrictions upon his conduct.

Commercializing art has been at the foundation of every retrogression since art began. We are not going to be proud of our future architecture if we are to relegate it to the middleman and compel the architect, in order to exist, to sell his artistic soul to the pot-boilers. It may be that many architects have been too absorbed in their art to spare the time to act as overseers during the erection of their buildings, that they have shied from contact with the purely material side of things. But there are hundreds of competent foremen and office assistants who can do this work to one who can design a beautiful building.

We hear so much talk of the practical man, of the man who can "do things," meaning nearly always the man who is first of all a good salesman. Men who have made architecture their life's work, certainly those whose names have become a part of the nation's history, are esteemed not because they made money but because they left behind an impression of beauty and the ideal. It may be that changing industrial conditions will demand some new adjustment in the conduct of the offices of the architects; but let us not find fault with the man who can create a beautiful structure just because he is not a good mixer, has neither the time nor the disposition to perform the duties of the salesman as well as the architect.

There is no country in the world where the artist is so little recognized as in America or where his influence for good is more needed. The war is going to teach us a lot of things besides economy and conservation. It is going to open our eyes to the significance and influence upon the national life of European architecture and art. There will come home thousands of men who will bring a new appreciation to the things that are good over here and a prompt recognition of much that is bad. Let's not try to make brokers of the architects, but stand by them and give them all the encouragement possible to persist in their search for and love of the beautiful. There is a Bolsheviki element in the arts as well as in other matters. There is certainly no place for high-brow stuff—artistic snobbery—but vast room open to men of sincerity and knowledge and integrity of purpose, and to name no names there is no member of the profession that does not think of such men and find greater satisfaction in his own work in aspiring to their ideals.

The Problem of Construction Costs

THE editor of the *Bulletin* of the Illinois Society of Architects recently sent a letter to a number of prominent architects asking for an opinion on this subject. The editor himself makes the following interesting comment on the use of materials:

"It is the editor's opinion that but little may be hoped for by any change in design. He is of the opinion that the competition between members of the profession has and will continue to ever serve as the best guarantee against the wasting of materials or improper designing. That for industrial work, sprinklered timber structure may be substituted for fireproof construction and for fireproof construction a more general use of reinforced concrete will be the order of the day.

"He is also of the opinion that the present allowable unit tresses for reinforced concrete work may be safely increased if reinforcing steel with a very high elastic limit is used with carefully *reground* cement.

One of the letters written by Mr. Herbert E. Hewett goes with considerable detail into the question of the letting of contracts and makes a special plea for the general contractor. It is a question of "buying power," he says, and the general contractor is in a position to know the market and "can buy cheaper than the architect; it is a matter of well-developed and experienced business ability and a well-equipped organization."

This is quite in line with what seems to be a growing tendency, the reorganization of many offices to include frankly the functions of architects, engineers, and builders. There seems little doubt that, as Mr. H. R. Helmle says, "We must work on broader lines." The problem, however, is one for each to solve in accordance with his special experience and business interests. The great problem, and one that should be in the minds of all, is the getting ready to meet the after-war conditions when the resumption of general building promises to be unprecedented in the history of the nation.

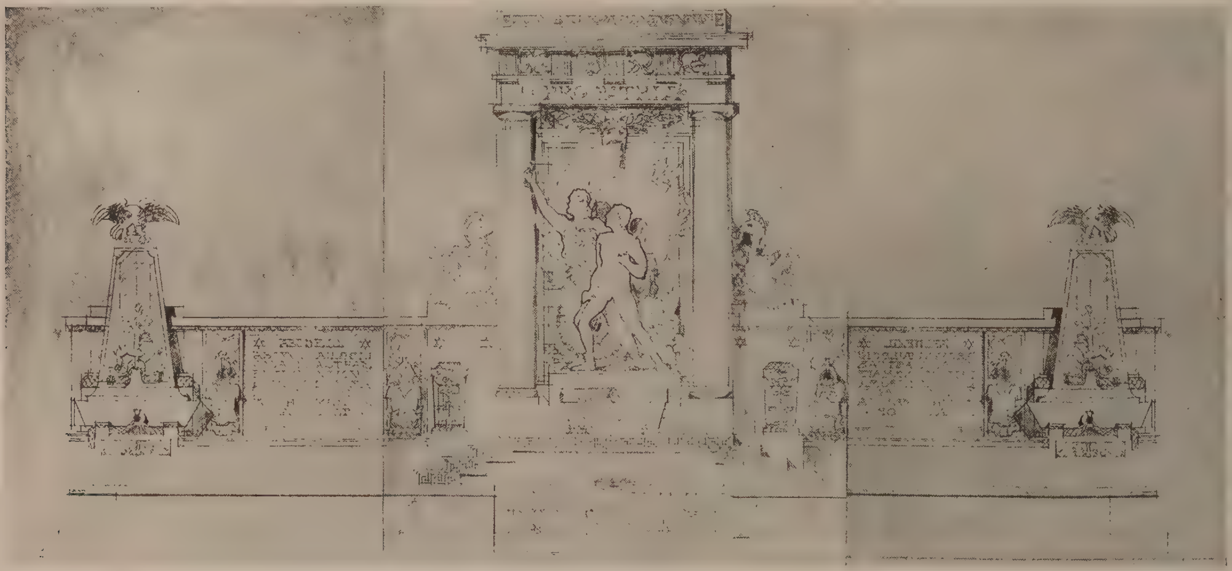
New York's Altar to Liberty and the Avenue of the Allies

IT has been suggested that the beautiful Altar to Liberty, designed by Thomas Hastings and erected in Madison Square as a place for the daily ceremonies connected with the city's Fourth Liberty Loan drive, be made a permanent memorial. The plan of such an altar and the decoration of Fifth Avenue (the Avenue of the Allies during the celebrations), with great red Liberty Loan banners, and with the flags of the twenty-two associated nations, came from the Advisory Art Committee of the Liberty Loan Committee. This was composed of the following distinguished artists: Herbert Adams, president of the National Academy; Edwin H. Blashfield, president of the Society of Mural Painters; Paul Bartlett, president of the National Sculpture Society; Charles Dana Gibson, president of the Society of American Illustrators; and H. Van Buren Magonigle, president of the Architectural League, who was chairman of the committee. Paul Dougherty, the noted marine painter, was secretary. The arrangement of the banners and flags was under the charge of Mr. J. Monroe Hewlett. A notable feature of the artistic display and one that attracted crowds daily was the painting each day of a large decorative picture in honor of the nation whose flag was raised at the altar, and the more than one hundred pictures painted by eminent artists expressing some phase of the war, which were displayed in various show-windows along Fifth Avenue. These were done under the direction of Augustus Vincent Tack. New York has never before had so much reason to be proud of its street decorations. The fluttering flags and banners, the posters and pictures in the windows, the gonfalons on the street lamp-posts were an honor to the fine taste and knowledge of the gentlemen who composed the Advisory Art Committee.

Many will remember that New York owes one of its most beautiful memorials, the famous Washington Arch, designed by Stanford White, to a temporary structure erected for a great public occasion. A wide demand followed for its erection in permanent form and funds were forthcoming by popular subscription. The thousands who have passed, or stopped to hear the speakers at the Altar to Liberty, have carried away with them impressions of its beauty and appropriateness for the occasion, and its fine suitableness as a permanent memorial to the great war for the freedom of the world. No doubt a much more desirable site might be chosen for its final placing than Madison Square, for there is already too little space in our parks. The following gives Mr. Hastings' own ideas regarding the conception of and significance of the altar.

"The thought of an Altar to Liberty at this time was the conception of a distinguished committee of artists who called upon me to make the design in its material form. With this in view it has been my endeavor to architecturally symbolize the sacrifices made by civilization in this great war waged to conquer the spirit of militarism by the final triumph of a lasting peace. The central feature, the bow and arrow placed under the shadow of the cornice, is intended to symbolize the dawn of civilization by way of man's ingenuity and intelligence dominating superior brute force for its own protection and livelihood. Going back to the cave-dweller and mound-builder, the making of this implement of war was probably the very beginning of the intellectual evolution of manhood.

"On either side of the altar the chain armor, the shields, helmets and chains symbolize the early spirit of asceticism, mediæval feudalism, and finally slavery in our own time and country overcome by the continuous progress of civilization. The altar in its ensemble and in the selected quotations from men who think and men in authority shown in the large panels at either side, is intended to signify and uphold the real moral issue that this is a war upon the very institution of war itself, to conquer and overthrow militarism in order to establish, with limited armament, reason and justice in all intercourse between nations. We are persuaded that when this promise will have been fulfilled, we may live to see the greatest spiritual uplift since the dawn of Christianity, when men killing each other in battles will be as unthinkable an event as cannibalism or slavery.



The Altar to Liberty, from the original sketch made by the architect, Thomas Hastings.

"If not for all time it is at least the call for a lasting peace; it is the battle-cry of freedom; it is the voice of the peace-loving peoples of the world demanding that wars be abolished. It comes from the peasant who tills the soil, and the laborer who toils for his daily stipend; from the man of commerce and industry; from those who direct the affairs of state; from the artist in his studio and the student in the silent recesses of library or laboratory; from the multitude who suffer from want, and sorrow for those who have gone; from those returning from the field of action where they have seen the horrors of it all. 'Deliver us,' they pray, 'from the fetters and shackles of the phantom of war and give us a lasting peace.' 'Suddenly there was with the angel a multitude of the heavenly host praising God, and saying, Glory to God in the highest, and on earth peace, good-will toward men.' "

Thomas Hastings.

The Bruges Market and Belfry

BOLD, decorative, elegant, and spiritual are a few of the adjectives applicable to the Bruges belfry. One need not ask in what style it is designed, for it has a decided one—the style of a masterpiece. It stands up as the standard-bearer of communal liberties, defying both elements and tyrants. Nowhere is the idea of spirituality and the ascendency of man better marked. The stability of the pyramid and the boldness of the obelisk seem to have been allied here to form a most striking and effective contrast. The whole effect is obtained with such simple means that it makes this structure an unforgettable lesson of architecture.

What a sublime lesson! Its underlying principles deserve to be better studied. Its elements, all structural, are so combined as to make it look like an animated piece of sculpture.

It derives its power not from the authority of this or that other classic but from the creative force of its author, which makes it in turn become classic.

Its whole reminds one of a beautiful piece of sculpture in the museum of the Louvre called "The Soul Freeing Itself from Matter." Although the Germans used the building as a garage and made changes, none are irreparable. But the bells are gone, and their rich tones will never be heard again. No chimes in Europe were lovelier or are more remembered.

BOOK REVIEWS

Italian Furniture and Interiors, with Text by George Leland Hunter. 200 plates. $30.00 for the set, $3.00 a part. William Heilburn, Inc., New York.

A large number of the examples shown in this admirably comprehensive work have heretofore been inaccessible.

Among the very notable collections illustrated are those of the Villa Palmieri, Villa Pia, Davanzati Palace, Metropolitan Museum of Art, South Kensington Museum, Cluny Museum, Florence National Museum, etc.

The text, which will be by George Leland Hunter, will supply an authoritative descriptive background that will make clear the relations of the different pieces to one another and to the furniture of other countries and other ages.

Several years have been spent in gathering this most representative material of furniture and interiors of the Italian Renaissance period.

The many plates of this monumental work will be an invaluable reference for architects, decorators, manufacturers, designers, libraries, the private collector and student of the arts.

The Architecture of the Renaissance in Italy: A General Review for the Use of Students and Others. By William J. Anderson, architect, Associate of the Royal Institute of British Architects. Fourth edition, revised and enlarged, with 70 collotype and other plates and 110 illustrations in the text. Large 8vo. Cloth, gilt, $6.00 net. New York, Charles Scribner's Sons; London, B. T. Batsford, Ltd.

This admirable standard book on the period, for which many requests have been made in the last year, is now again in print. The numerous illustrations from photographs and the measured drawings make it a notably valuable reference-book for the architect's and student's library. "It is a classic in the literature of architecture."

The American Hospital of the Twentieth Century. By Edwin F. Stevens, A. I. A. Illustrated. 4to. $5.00. Architectural Record Publishing Co.

Mr. Stevens has had a wide experience in this special field, and his book has a most useful and special timeliness in these days of war and the coming back of thousands of our men invalided from the front. This book, in which has been gathered the latest information regarding developments in American hospital planning, and which also illustrates some of the most successful institutions of Europe, is certain to be very valuable not only to architects but also to every one interested in hospital arrangement and administration.

The 1918 Year-Book of the Merchants' Association is being distributed among the members of the association. It covers the activities of the organization from May 1, 1917, to May 1, 1918.

The predominating feature of the book is the space that is given to the war work done by the association in co-operation with the Federal authorities. A large proportion of the energy and activity of the association was devoted during the year to this kind of work.

The book contains alphabetical and classified lists of the members. The names of nearly all the leading commercial houses and financial institutions in the city appear on these rolls, together with the names of many individual professional men and others.

The membership of the association now stands at the highest point in its history, with a total of 5,481. The patriotic service which the association is giving, and the fact that it is in constant touch with the various bureaus and commissions in Washington which now control every phase of business activity, have stimulated a decided membership increase during the summer months, when usually a slowing up is noted.

"Through the vision and sound judgment of the association's officers, directors, and committees, and through the administrative activities of its office staff and bureaus, the association has been able, during the year under review, to render great assistance to the business men in meeting these war problems surrounding the conduct of business."

The New Department at the Metropolitan Museum of Art

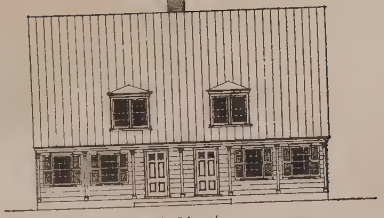
THE museum has established a department devoted specifically to the requirements of producers and dealers in industrial art objects, a department which will make every effort to render accessible the invaluable resources of the collections for the betterment of American design and craftsmanship. This office will be in charge of Richard F. Bach, of Columbia University. Mr. Bach's experience in the field and especially his knowledge of the nature of the design problem as related to the requirements of manufacture and merchandising will make it possible for manufacturers to obtain direct assistance, so that they may henceforth rest assured that there are no unmined treasures in the splendid Morgan and other collections to which they have not immediate access in terms of their own particular problems and requirements. It is planned to make this departure on the part of the museum directly useful to all designers and producers, dealers and manual craftsmen engaged in any way in connection with the making or selling of furniture, fabrics, floor-coverings, clothing, metalwork, woodwork, jewelry, laces, and any other industrial art branches.

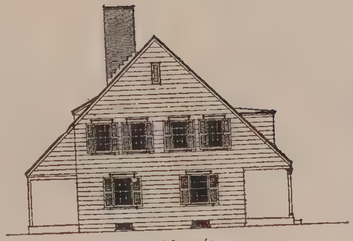
Delano and Aldrich and Charles H. Higgins

Messrs. Delano and Aldrich, architects, and Charles H. Higgins, engineers, wish to announce that they have associated their firms for the purpose of supplying at the least cost a complete organization for designing and supervising the construction of industrial plants, houses for workmen, and other essential projects. The new firm will be known as Delano and Aldrich and Charles H. Higgins, Associated Architects and Engineers, 126 East Thirty-eighth Street, New York.

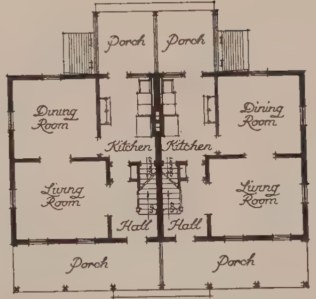
NOW GIVE!

United War Work Campaign, November 11th to 18th


Front Elevation

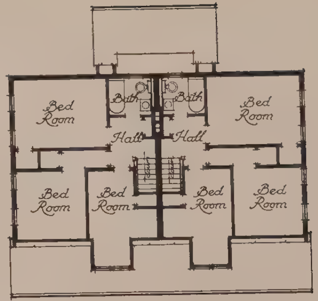

Side · Elevation

C4 Semi-detached Six Room House
scale
0 5 10

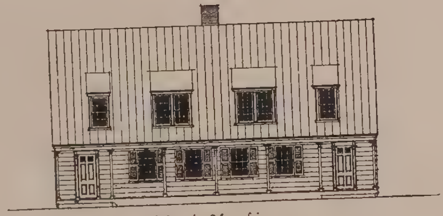


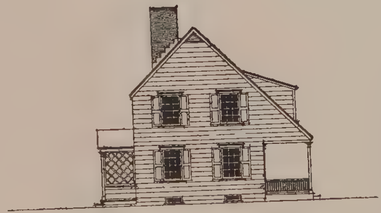
First Floor Plan

C4 Semi detached
Six Room House
scale
0 5 10

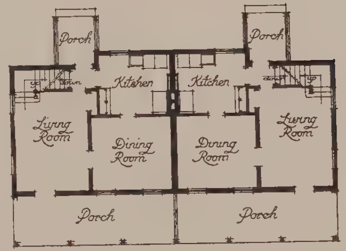


Second Floor Plan


Front Elevation

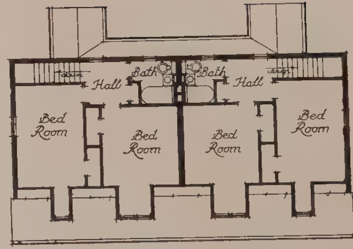

Side.. Elevation

B4 Semi-detached, Six Room House
scale
0 5 10

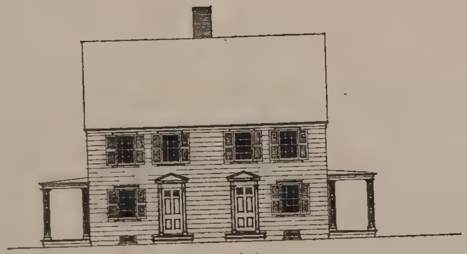


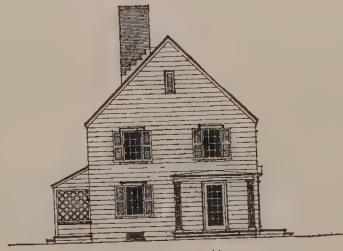
First Floor Plan

B4 Semi detached
Five Room House
scale
0 5 10

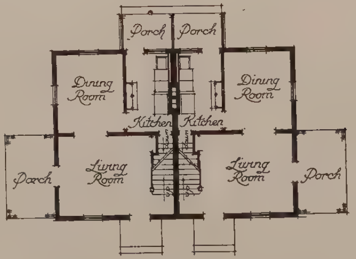


Second Floor Plan


Front Elevation

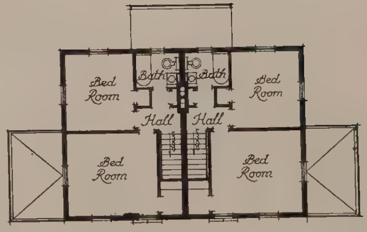

Side Elevation

B4 Semi-detached Six Room House
scale
0 5 10



First Floor Plan

B4 Semi detached
Five Room House
scale
0 5 10

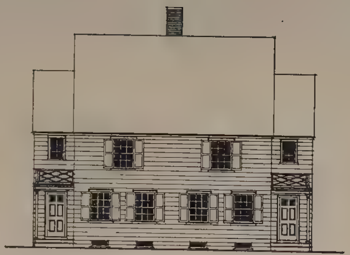


Second Floor Plan

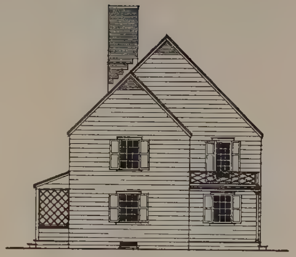
SHIPWORKERS' HOMES AT GROTON, CONN.

For the Emergency Fleet Corporation, U. S. Shipping Board.

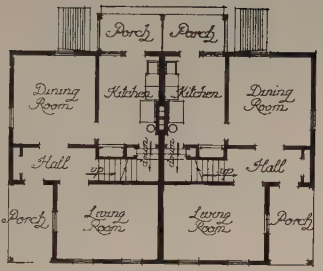
Eugene J. Lang, Architect.



Front Elevation

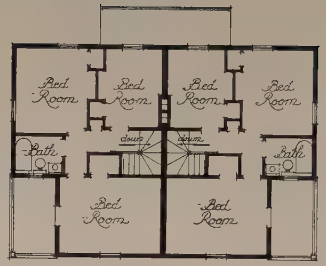


Side Elevation



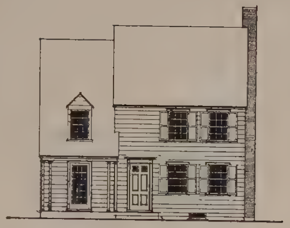
First Floor Plan

C¼ Semi detached Six Room House
scale
0 5 10

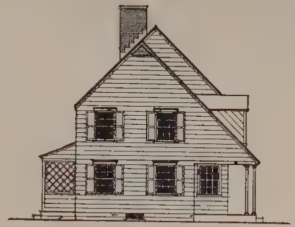


Second Floor Plan

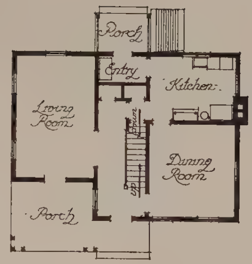
C¼ Semi detached Six Room House
scale
0 5 10



Front Elevation

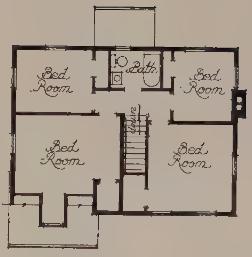


Side Elevation



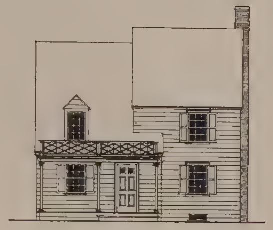
First Floor Plan

D¼ Detached Seven Room House
scale
0 5 10

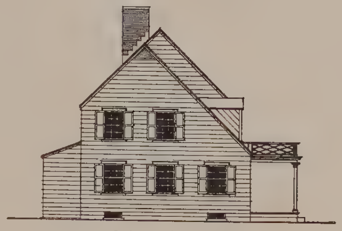


Second Floor Plan

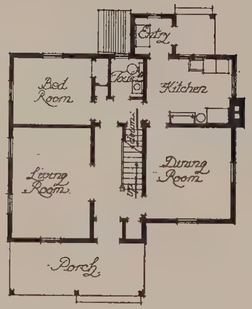
D¼ Detached Seven Room House
scale
0 5 10



Front Elevation

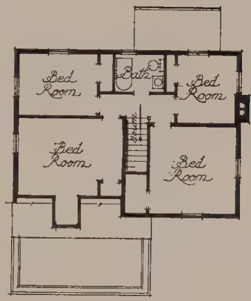


Side Elevation



First Floor Plan

E¼ Detached Seven Room House
scale
0 5 10



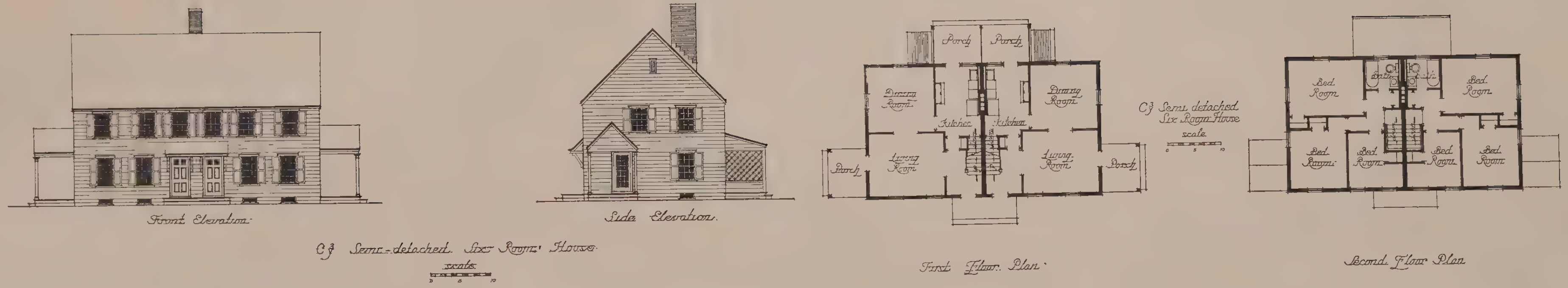
Second Floor Plan

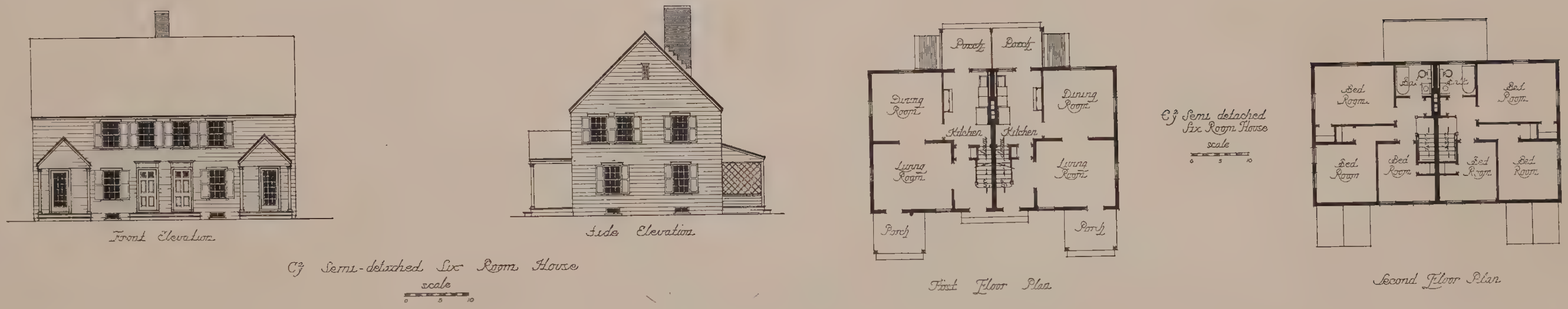
E¼ Detached Eight Room House
scale
0 5 10

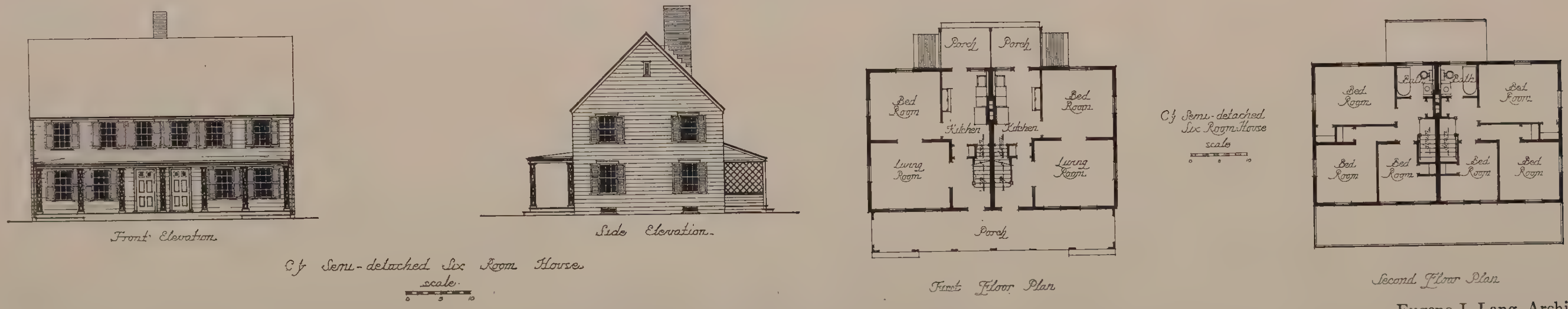
SHIPWORKERS' HOMES AT GROTON, CONN.

For the Emergency Fleet Corporation, U. S. Shipping Board.

Eugene J. Lang, Architect.



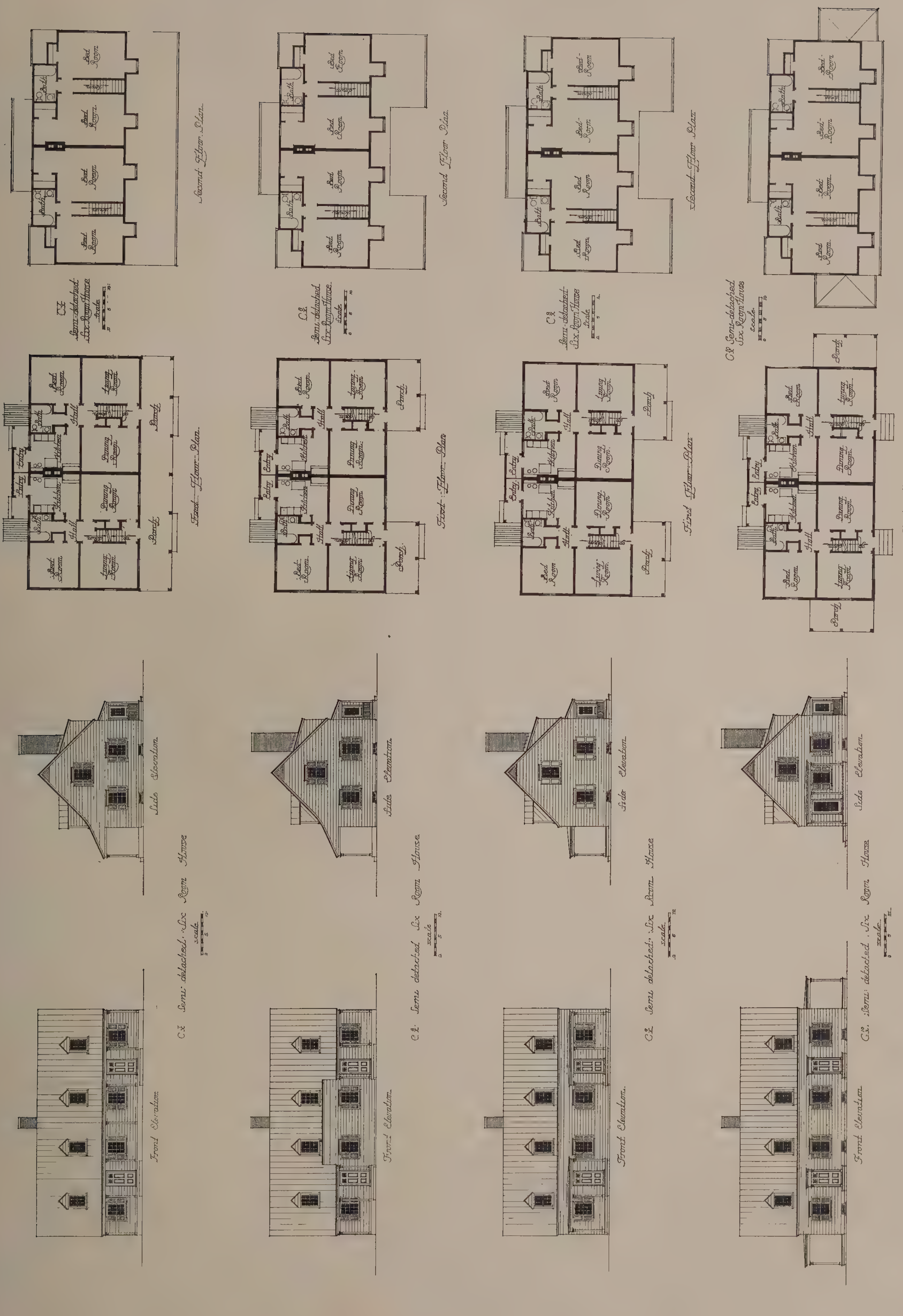




SHIPWORKERS' HOMES AT GROTON, CONN.

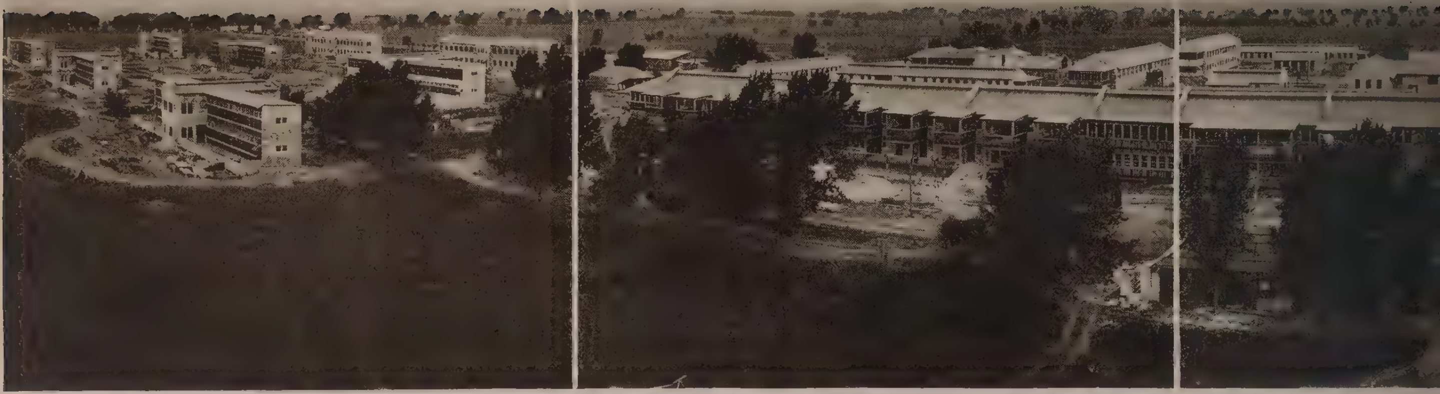
For the Emergency Fleet Corporation, U. S. Shipping Board.

Eugene J. Lang, Architect.

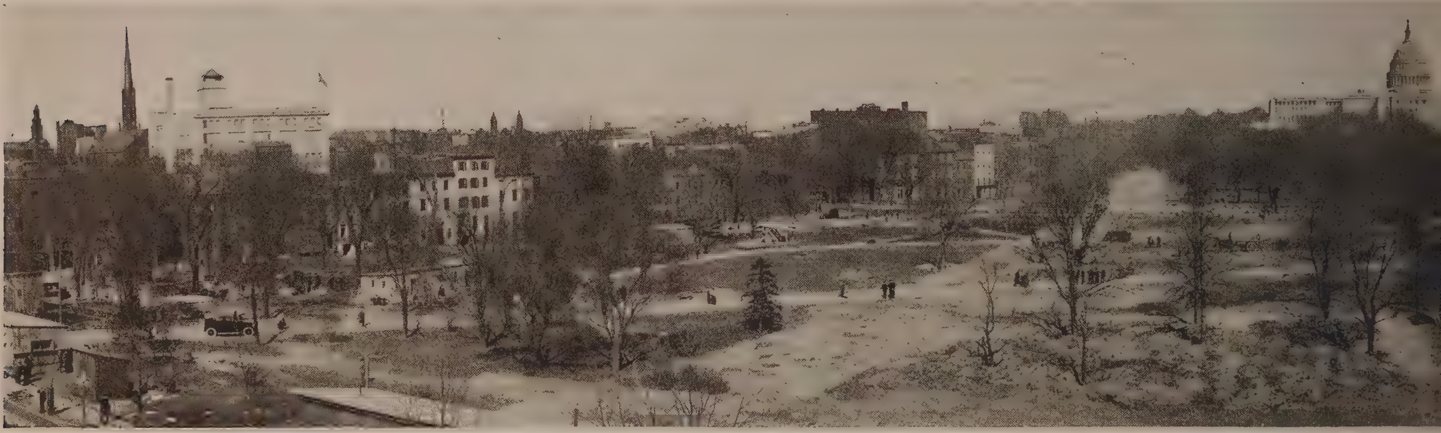


Eugene J. Lang, Architect.

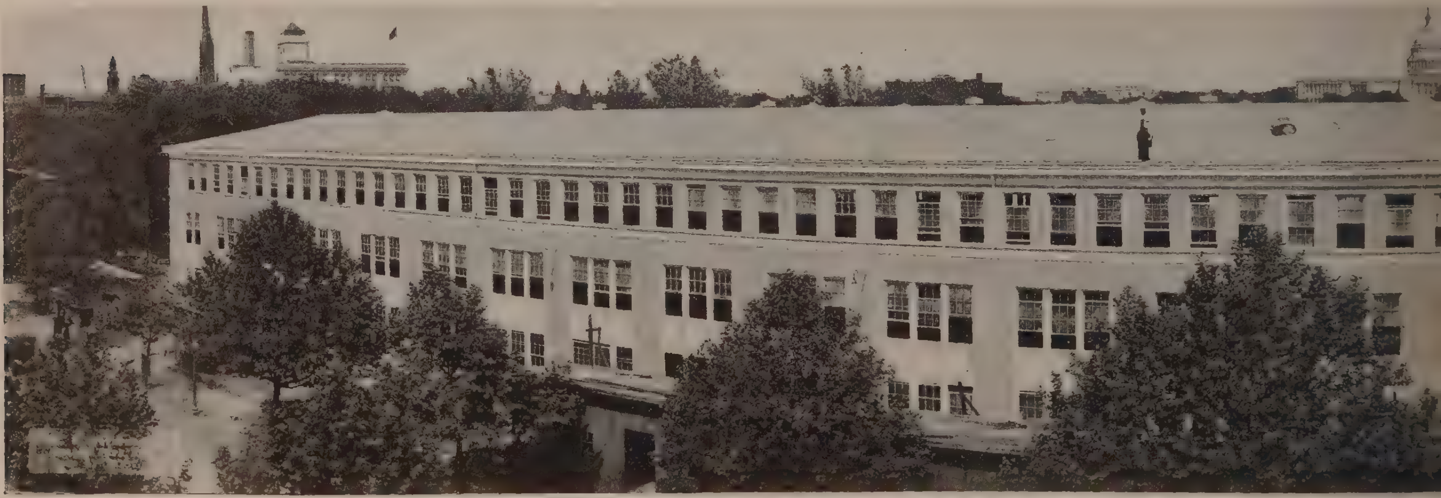
SHIPWORKERS' HOMES AT GROTON, CONN.
For the Emergency Fleet Corporation, U. S. Shipping Board.



U. S. A. GENERAL HOSPITAL, NO. 21, DENVER, COLO. (Progress Photograph, September 14, 1918.)



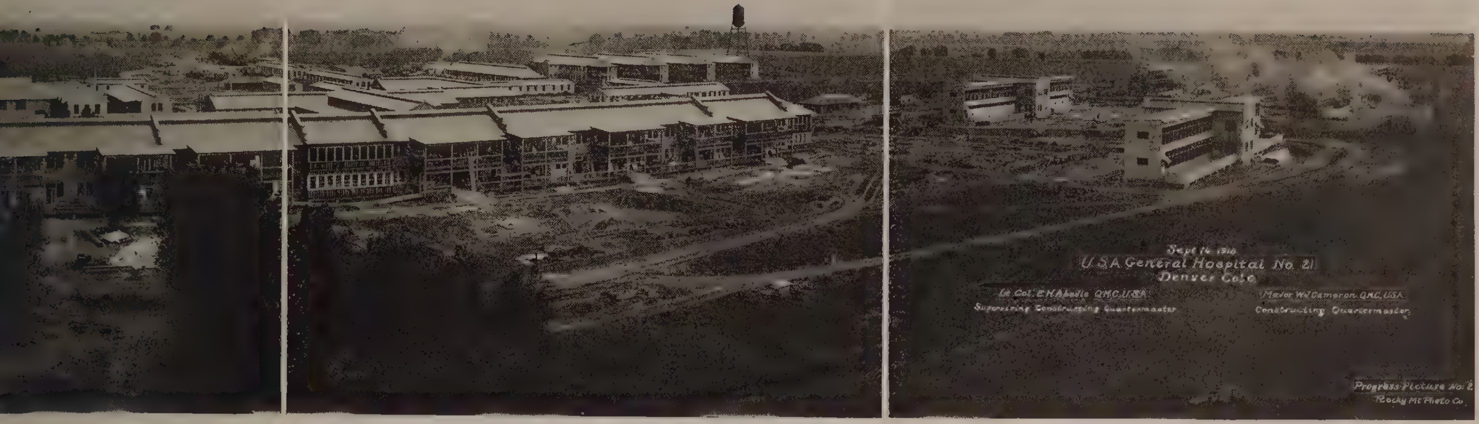
SEATON PARK, SITE OF LARGE U. S. GOVERNMENT OFFICE BUILDINGS (as it appeared April 5, 1918).

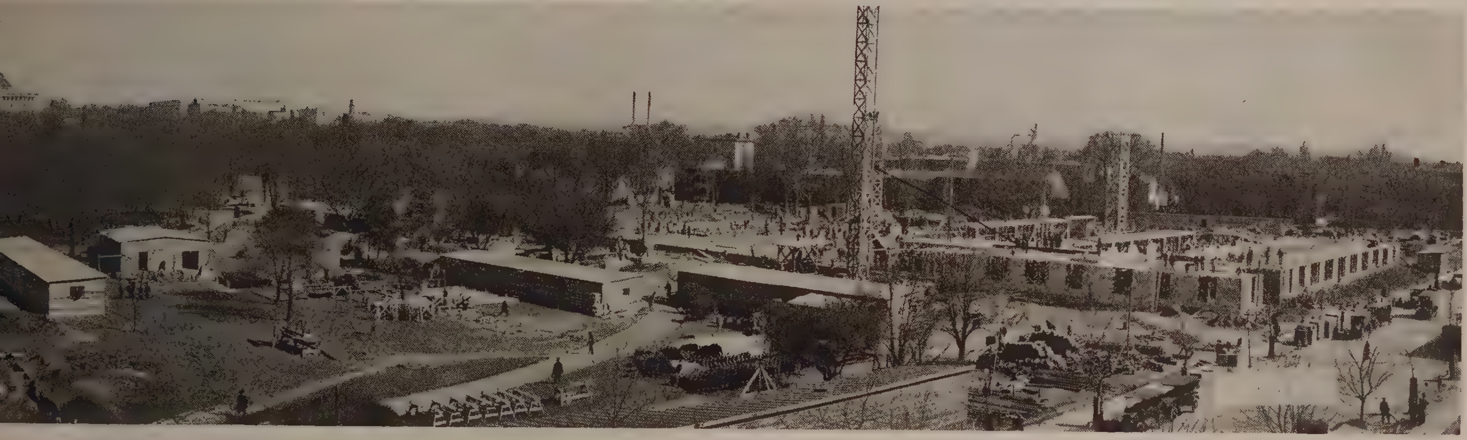


BUILDING D.

SEATON PARK BUILDINGS, U. S. GOVERNMENT OFFICES (June 4, 1918).

SHOWING THE PHENOMENAL RAPIDITY OF CONSTRUCTION


Sept 14 1918
U.S.A General Hospital No 21
Denver Colo
Lt Col. E.H.Abadie QMC.U.S.A.
Supervising Constructing Quartermaster
Major W.J.Cameron QMC.U.S.A.
Constructing Quartermaster
Progress Picture No. 2
Rocky Mt Photo Co.



BUILDING E.

Waddy B. Wood, Architect for Construction Division of the U. S. Army.

OF LARGE BUILDINGS REQUIRED FOR WAR PURPOSES.

The Indexing and Filing of Technical Articles and Illustrations in an Architect's Office

By Harry Leslie Walker, M. A. I. A.

THE leading architectural, technical, and artistic journals publish every year a large quantity of information, both articles and illustrations, which is of great value to the practising architect, or would be of great value if some method of indexing and filing could be devised so that he would be able to find the desired information quickly and surely.

A filing system to be in any sense successful must accomplish at least three things: The matter filed must be easily and quickly found by means of the index; it must be marked and handled in such a way that it can be refiled in its proper place by any one possessing ordinary intelligence; and, finally, when it is in the file it must be reasonably well protected from dust and damage. These three things are absolutely essential and apply to any filing system, large or small, public or private.

There is, however, one feature of the system devised for the smaller organization which is perhaps most important of all, and that lies in the recognition of the personal way of working and manner of thought of the individual who makes most use of the file. The filing system must as far as possible automatically care for and assist the personal habits of thinking of the user of the file. The catalogue of a public library is devoid of personality and is at best a rather unsatisfactory tool, but the catalogue or filing system of a private library should reflect the characteristics of the owner, and its success as a useful adjunct to the office is very largely directly measured by this quality.

There is but one way to inject this quality, and that is to do the actual selection and indexing yourself. To some this may seem a tedious process and waste of valuable time, but if the file is kept up to date, and all matter worth preserving indexed as soon as it comes into the office, it will be found that the time consumed is but little and the advantage gained in a more intimate knowledge of one's private library is very great. Of course, the actual sorting and filing may be done by any available member of the office force.

The index given here is one the arrangement of which has been based on the well-known Dewey Decimal System of numbering, but the detailed classification has been almost wholly devised by the writer, and represents many years of experience in the conduct of a moderate-sized practice, having been adjusted and modified many times to meet conditions as they arose. It has proven most successful and the greatest possible aid in looking up information of various sorts.

The material to be filed has been roughly divided into certain large divisions representing in a general way the different angles of an architect's service to his client.

These large divisions are as follows:

690. BUILDING: Comprising all union regulations, underwriters' rules and regulations, laws and ordinances, office forms, cost-estimating information, etc.

691. MATERIALS AND PROCESSES: Included under this head are all catalogues which are preserved, manufacturers' or government reports and specifications, and tests of various building materials and processes.

692. DRAWINGS AND SPECIFICATIONS: Under this number are filed all standard drawings, details, and specifications, and material of this sort which is general in character and not related to the product or process of any particular manufacturer.

710 to 716. Includes material relating to the development of grounds, such as landscape architecture, parks, city planning, etc.

720. ARCHITECTURE: Here is indexed the material dealing with the educational, theoretic, and æsthetic side of the profession.

722 to 724. Covers the historic styles.

725 to 728. Cares for all of the illustrations of modern buildings which are published from month to month by the various architectural publications that come to the office. Under these numbers are filed the plates, photographs, and articles covering the various buildings in the large, but none of the plates of the details of the various parts of the building.

729. DESIGN AND DECORATION: Under this number are filed photographs of all details of every sort regardless of the building of which they may be a part. For example, if it is desired to index a photograph of a stairway it is given the number 729.381 regardless as of to what type of building this stairway may be a part. This is based on the theory that in so far as their usefulness in the office as an aid or inspiration to design is concerned, photographs of the details of a building are interesting and helpful as such, and not because they are a part of a particular kind of building.

It is particularly in the judgment used in the indexing of plates that come under this number that the usefulness of the file may be greatly enhanced and the personality of the user most positively reflected. Here will be placed those plates, such as interiors or partial views of the exterior of the buildings, which may illustrate several different details, such as a window and a door, a cornice and a tower, a fireplace and an ornamental ceiling. In such instances the number should be used which, in the mind of the person using the file, conforms to the particular detail which possesses the greatest suggestive interest.

730. SCULPTURE: Here are indexed ancient and modern sculpture and other sculptured objects, such as pottery, ornamental metal-work, etc.

740. DRAWINGS AND DECORATIVE WORK: Comprised in these numbers are examples of renderings, perspective, engravings, etchings, etc.

744. ORNAMENTAL DESIGN: Under this number is found decorative design, including such subjects as wall-papers, glass, book-plates, etc.

745. FURNITURE: Includes all types of furniture and also church fittings and ecclesiastical furniture.

750. PAINTING: This number takes care of reproductions of paintings which may be of interest, and also examples of mural painting.

The Index in detail is as follows:

690	BUILDING
.1	Union regulations, trade.
.2	Fire prevention and control.
.21	Underwriters' rules and regulations.
.22	Fires, reports on.
.3	Ordinances and laws.
.31	Ordinances of New York, building.
.32	Fire Prevention Bureau rules.
.33	Ordinances of New York, other.
.34	Tenement house law.
.35	Labor department law.
.36	Lien laws.
.37	Law, general building.
.371	Laws affecting architects.
.4	Forms, office.
.41	Contract between owner and architect.
.42	Contract between owner and contractor.
.43	Bond for contractor.
.44	Competition programmes.
.45	Forms, miscellaneous.
.46	Systems, architect's office plans and.
.5	Cost estimating.
.51	Quantity surveying.
.6	American Institute of Architects reports.
.7	History of building materials and construction.
691	MATERIALS AND PROCESSES
.1	Woods.
.11	Woods, hard.
.12	Woods, soft.
.13	Wood preservation and seasoning.
.14	Wood, tests of.
.15	Wood, structural design in.
.16	Woods, grading of.
.2	Stone.
.21	Limestone and sandstone.
.22	Granite.
.23	Marble.
.231	Marble, domestic.
.232	Marble, foreign.
.24	Slate.
.25	Stone, other building.
.26	Stone, tests of.
.27	Stone, structural design in.
.3	Concrete and cement.
.31	Concrete and cement, tests of.
.32	Concrete and cement, structural design in.
.33	Reinforced concrete.
.331	Reinforced concrete, tests of.
.332	Reinforced concrete, design and calculation of.
.34	Stone, artificial.
.35	Cement work, ornamental.
.36	Cement fireproofing.
.37	Lime.
.38	Plaster.
.4	Brick and tile.
.41	Brickwork, structural.
.411	Brickwork, tests of.
.412	Brickwork, structural design of.
.42	Brickwork, ornamental.
.43	Tile.
.431	Tile, roofing.
.432	Tile, wall.
.433	Tile, floor.
.434	Tile, ornamental.
.435	Terra-cotta.
.4351	Terra-cotta, ornamental.
.4352	Terra-cotta, structural.
.5	Paint, waterproofing.
.51	Paint, composition and tests of.
.52	Paints, preservative.
.53	Waterproofing.
.54	Glass.
.541	Glass, window and plate.
.542	Glass, prism.
.543	Glass, structural.
.6	Steel, iron, and other metals.
.61	Steel work.
.612	Steel, tests of.
.613	Steel, design and calculation of.
.62	Iron.
.621	Iron, tests of.
.622	Iron, design and calculation of.
.623	Iron, ornamental.
.63	Metal work, sheet.
.64	Metals, other.
.7	Plumbing.
.71	Plumbing, design and calculation of.
.72	Plumbing fixtures.
.8	Heating and ventilation.
.81	Heating, design and calculation of steam.
.82	Heating, design and calculation of hot-water.
.83	Heating, design and calculation of hot-air.
.84	Boilers and radiators.
.85	Furnaces.
.86	Ventilation.
.87	Heating systems, vacuum.
.9	Electric work.
.91	Electric lighting.
.911	Lighting fixtures.
.912	Electric wiring, design of.
.92	Electric bells.
.93	Telephone wiring.
.0	Materials and processes, other.
692	DRAWINGS AND SPECIFICATIONS
.1	Drawings, the making of working.
.12	Detail drawings.
.2	Specification forms.
.21	Specification of general conditions.
.22	Specification of masonry work.
.23	Specification of steel and iron work.
.24	Specification of plastering.
.25	Specification of carpentry work.
.26	Specification of painting and finishing.
.27	Specification of plumbing, heating, and ventilation.
.28	Specification of electric work.
.29	Specification of other branches.
.291	Specification of elevator work.
.292	Specification of mechanical plant.
710	LANDSCAPE ARCHITECTURE
.1	Bridges.
.2	Lamp-posts, and sign-posts, ornamental.
711	PARK AND GARDENS, PUBLIC
712	GARDENS, PRIVATE
713	GARDEN ACCESSORIES
.1	Fountain, pools, and well curbs.
.2	Gateways.
.3	Terraces and stairways, garden.
.4	Walls and fences and latticework.
.5	Garden houses.
.6	Pergolas.
.7	Ornamental sculpture, urns, sun-dials, etc.

714					CITY PLANNING
	.1				City plans, general.
	.2				Housing.
	.3				Building heights, regulation of.
715					MONUMENTS
	.1				Monuments, general.
716					CEMETERIES
	.1				Cemetery gates.
	.2				Chapels, mortuary.
	.3				Mausoleums, public.
	.4				Mausoleums, private.
	.5				Crematories.
	.6				Monuments, mortuary.
720					ARCHITECTURE
	.1				Design, theoretical.
	.2				Essays, general.
	.3				Education, architectural.
	.4				American Institute of Architects.
	.5				Architectural and allied societies, other.
	.6				History of architecture, general.
	.7				Architects, portraits and biography of.
722					ANCIENT AND ORIENTAL
	.1				Prehistoric architecture.
	.2				Assyrian, Babylonian, etc., architecture.
	.3				Egyptian architecture.
	.4				Indian architecture.
	.5				Roman architecture.
	.6				Grecian architecture.
	.7				Chinese and Japanese architecture.
	.8				Ancient styles, other.
	.9				Pompeian.
723					MEDIÆVAL, CHRISTIAN, MOHAMMEDAN ARCHITECTURE
	.1				Christian architecture, early.
	.2				Byzantine architecture.
	.3				Moorish and Mohammedan architecture.
	.4				Spanish architecture.
	.5				Romanesque architecture.
	.6				Gothic architecture.
		.61			Gothic architecture, French.
		.62			Gothic architecture, English.
		.63			Gothic architecture, Italian.
		.64			Gothic architecture, German.
		.65			Gothic architecture, minor countries.
	.7				German architecture, mediæval.
	.8				English architecture, early.
	.9				Minor country architecture, early.
724					MODERN ARCHITECTURE
	.1				Renaissance architecture.
		.11			Renaissance architecture, English.
		.12			Renaissance architecture, French.
			.121		Francis I architecture.
			.122		Henry IV architecture.
			.123		Louis XIV architecture.
			.124		Louis XV architecture.
			.125		Louis XVI architecture.
			.126		Empire architecture.
		.13			Renaissance architecture, Italian.
		.14			Renaissance architecture, Spanish.
		.15			Renaissance architecture, Dutch.
		.16			Renaissance architecture, German.
		.17			Renaissance architecture, United States.
			.171		Colonial and Georgian architecture.
		.18			Renaissance architecture, other countries.
725					PUBLIC BUILDINGS
	.1				Administration and government buildings.
		.11			Capitol buildings.
			.111		Capitol buildings, national.
			.112		Capitol buildings, state.
			.113		Capitol buildings, provincial.
		.12			Department buildings, national.
			.121		State Department buildings.
			.122		Treasury Department buildings.
			.123		War Department buildings.
			.124		Navy Department buildings.
			.125		Justice buildings, Department of.
			.126		Interior buildings, Department of.
			.127		Education buildings, Department of.
			.128		Commerce and Labor buildings, Department of.
			.129		Government buildings, miscellaneous.
		.13			City buildings.
			.131		City halls.
			.132		Town halls.
		.14			Custom-houses, etc.
			.141		Custom-houses.
			.142		Custom warehouses.
		.15			Court-houses and record offices.
			.151		Court-house.
			.152		Court office and archive buildings.
		.16			Postal buildings.
			.161		Postal buildings, national.
			.162		Postal buildings, city.
		.17			Residences, official.
			.171		Residences, national official.
			.172		Residences, state official.
			.172		Embassy buildings.
		.18			Police, armories, barracks.
			.181		Police buildings, city.
			.182		Armories.
		.19			Fire Department buildings.
	.2				Business and commercial buildings.
		.21			Store buildings.
			.212		Store buildings, department.
		.22			Office buildings.
			.221		Office buildings, large.
			.222		Office buildings, small.
			.223		Office buildings, special.
			.224		Loft buildings.
		.23			Bank buildings.
		.24			Exchanges.
		.25			Markets, public.
		.26			Business buildings, miscellaneous.
	.3				Transportation and storage buildings.
		.31			Railway passenger stations.
		.32			Railway freight houses.
		.33			Railway shops.
		.34			Dock buildings.
		.35			Warehouses.
	.4				Manufacturing buildings.
		.41			Power and pumping stations.
		.42			Studios, moving-picture buildings and
		.43			Automobile service buildings.
	.5				Hospitals and asylums.
		.51			Hospitals.
			.511		Hospitals, general.
				.5111	Hospitals, children's.
				.5112	Hospitals, college.
				.5113	Nurses' homes.
				.5114	Hospitals, maternity and women's.
				.5115	Hospitals, eye and ear.
			512		Surgical buildings.
			.513		Hospitals for crippled and ruptured.
			.514		Hospitals, skin and cancer.
			.515		Hospitals, private.
			.516		Dispensary buildings.
			.517		Hospitals for incurables.

.518	Hospitals, isolation.
.519	Sanatoriums.
.5191	Sanatoriums, tuberculosis.
.5192	Convalescent homes.
.5193	Inebriate asylums.
.52	Hospitals for the insane.
.53	Feeble-minded, homes for.
.54	Blind and deaf, buildings for.
.55	Almshouses and orphan asylums.
.56	Aged, homes for.
.57	Soldiers' and sailors' homes, old.
.58	Masonic and fraternal order homes.
.6	Prisons and reformatories.
.61	Penitentiaries.
.62	Jails.
.63	Reformatories.
.7	Refreshments, baths, parks.
.71	Restaurants.
.72	Baths and gymnasiums, public.
.73	Park buildings, general.
.74	Public comfort stations.
.8	Recreation buildings, public.
.81	Theatres.
.811	Theatres, outdoor.
.82	Concert and lecture halls.
.83	Billiards and bowling buildings.
.84	Playgrounds, public.
.85	Skating-rinks, public.
.86	Boat-houses and piers, public.
.9	Public buildings, other.
.91	Exposition buildings and grounds.
.92	Settlement buildings, social.
.93	Auditoriums, public.
.94	Memorial buildings.
726	ECCLESIASTICAL AND RELIGIOUS BUILDINGS
.1	Cathedrals.
.2	Churches.
.21	Churches, city.
.22	Churches, country.
.23	Rectories and parish houses.
.25	Churches, English modern country.
.26	Chapels and Sunday-school buildings.
.27	Churches, Christian Science.
.3	Synagogues.
.4	Y. M. C. A. and Y. W. C. A. buildings.
727	EDUCATIONAL AND SCIENTIFIC BUILDINGS
.1	Schools.
.11	Schools, public.
.111	Schools, high.
.112	Schools, graded.
.12	Schools, private.
.13	Conservatories of music.
.14	Schools, art.
.141	Studio buildings.
.15	Schools, medical.
.16	Theological seminaries.
.17	Schools, normal.
.18	Schools, trade and manual arts.
.2	Colleges and universities.
.21	Colleges, general views and plans of.
.22	College dormitory buildings.
.23	Colleges, miscellaneous buildings of.
.24	College gymnasiums and boat-houses.
.25	College dining-halls and commons.
.26	College chapels.
.27	College laboratories and recitation buildings.
.28	College stadiums and athletic fields.
.3	Museums.
.4	Art galleries.
.41	Art galleries, public.
.42	Art galleries, private.
.5	Library buildings.
.51	Libraries, public.
.511	Libraries, branch.
.52	Libraries, private.
.53	Libraries, college.
.54	Libraries, special.
.6	Society buildings, learned.
728	RESIDENCES
.1	Tenements.
.11	Tenements, city model.
.2	Apartment buildings.
.21	Apartments, large city.
.22	Apartments, small city.
.23	Apartments, large country.
.24	Apartments, small country.
.25	Apartments, bachelor.
.26	Houses, rooming.
.27	Houses, semidetached.
.3	Houses, city.
.31	Houses between party walls, city.
.32	Houses on corner lot, city.
.33	Houses, detached city.
.34	House interiors, city.
.35	House plans, city.
.4	Club and society buildings.
.41	Club-houses, city.
.42	Club-houses, country.
.43	Masonic Society buildings.
.44	Fraternal society buildings, miscellaneous.
.45	Fraternity houses and clubs, college.
.5	Hotels.
.51	Hotels, city.
.52	Hotels, country.
.53	Hotels, women's.
.54	Hotels, working-men's.
.6	Houses, country.
.60	Houses, English modern country.
.61	Houses with stone exterior, country.
.62	Houses with brick exterior, country.
.63	Houses with stucco exterior, country.
.64	Houses with half-timber exterior, country.
.65	Houses with frame exterior, country.
.66	House interiors, country.
.661	House plans, country.
.67	Farmhouses.
.68	Cottages for working men.
.69	Camps.
.7	Outbuildings.
.71	Garages and stables.
.711	Garages and stables, city.
.712	Garages and stables, country.
.72	Barns and dairy buildings.
.73	Gate lodges.
.74	Gardeners, servants, tenants, etc., houses for.
.75	Conservatories, private.
.76	Recreation buildings, private.
729	DESIGN AND DECORATION
.1	Elevation, the.
.2	Plan, the.
.21	Plan, the group.
.3	Forms, elementary.
.31	Walls.
.311	Plinth and base.
.312	Wall proper.
.313	Belt courses and bands.
.314	Mouldings.
.315	Cornices and entablatures.
.32	Supports.
.321	Orders and columns.
.323	Capitals and bases.
.324	Colonnades, cloisters, loggias, and porticos.
.325	Pedestals.

		.33		Arches and arcades.
		.34		Domes.
			.341	Vaulting.
		.35		Roofs.
			.351	Gables and pediments.
			.352	Chimneys.
		.36		Towers and spires.
			.361	Towers and spires, church.
			.362	Campaniles and bell-towers.
			.363	Clock-towers.
			.364	Flag-poles.
			.365	Tanks and windmills.
		.37		Openings.
			.371	Doorways and entrances.
			.372	Windows.
			.373	Porches and terraces.
		.38		Stairs and balustrades.
			.381	Stairways.
			.382	Balustrades and railings.
			.383	Balconies.
	.4			Decoration, flat.
		.41		Decoration, painted.
		.42		Tile and polychrome terra-cotta.
		.43		Mosaic.
		.44		Sgraffito.
	.5			Decoration, relief.
		.51		Decoration, sculptured.
		.52		Plaster-work, ornamental.
	.6			Accessories and furnishings.
		.61		Fireplaces.
		.62		Ceiling, ornamental.
		.63		Panelling.
730				SCULPTURE
731				SCULPTURE MATERIALS AND METHODS
732				SCULPTURE, ANCIENT
733				SCULPTURE, GREEK AND ROMAN
734				SCULPTURE, MEDIÆVAL
735				SCULPTURE, MODERN
	.1			Models, architectural.
736				CARVING
	.1			Carving, wood.
	.2			Jewelry.
	.3			Tablets, stone.
	.4			Lighting standards, stone.
737				MEDALS AND COINS
738				POTTERY
	.1			Pottery, ancient.
	.2			Pottery, modern.
739				METAL-WORK
	.1			Doors and gates, bronze and iron.
	.2			Tablets, metal.
	.3			Metal-work, ornamental.
	.4			Lighting fixtures and standards, metal.
740				DRAWINGS AND DECORATIVE WORK
741				DRAWINGS, FREE-HAND
	.1			Illustration.
		.11		Illustration in black-and-white.
		.12		Illustration in color.
	.2			Japanese drawing and painting.
	.3			Figure drawing.
	.4			Rendering, architectural.
		.41		Rendering in black-and-white.
		.42		Rendering in color.
		.43		Rendering, photographs for suggestions in.
742				DRAWINGS, MATHEMATICAL
	.1			Perspective.
	.2			Lettering.
743				ENGRAVING
	.1			Engraving, steel and copper.
	.2			Etchings.
	.3			Woodcuts.
744				DESIGN, ORNAMENTAL
	.1			Design, black-and-white.
		.11		Book-plates.
	.2			Design, color.
	.3			Tapestries and textiles.
	.4			Wall-papers.
	.5			Glass.
		.51		Glass, stained.
		.52		Glass, leaded.
		.53		Glass vases, etc.
	.6			Lace.
745				FURNITURE
	.1			Furniture, ancient.
	.2			Furniture, mediæval.
	.3			Furniture, Renaissance.
	.4			Furniture, Colonial and Georgian.
	.5			Furniture, modern.
		.51		Cases and commercial furniture.
	.6			Clocks.
	.7			Furniture, church.
		.71		Pulpits and reading-desks.
		.72		Choir-stalls, sedilia, and stalls.
		.73		Screens.
		.74		Organs.
		.75		Altars and reredos.
		.76		Baptistries and fonts.
		.77		Chapels, private.
		.78		Crosses, pyx, prie-dieu, pew-ends, etc.
750				PAINTING
	.1			Painting materials and methods.
	.2			Painting, water-color.
	.3			Painting, various schools of.
		.31		Painting, ancient.
		.32		Painting, Dutch.
		.33		Painting, English.
		.34		Painting, French.
		.35		Painting, Italian.
		.36		Painting, Spanish.
		.37		Painting, German.
		.38		Painting, American.
		.39		Painting, other schools of.
751				PAINTING, MURAL

The Dewey Decimal System of numbering, of course, makes possible any amount of expansion into smaller divisions than are given here. For example, buildings or details may be divided according to certain pronounced styles, such as colonial doorways and entrances, according to their author, such as country houses by Mr. Platt or churches by Mr. Cram and Mr. Goodhue, or in any other arbitrary manner that may best suit the desire of the maker of the file.

The actual indexing and filing is very simple. Each plate, photograph, pamphlet, or article has its index number put in the upper left-hand corner, using a soft pencil which will make a strong, bold, and easily read figure, and which also can be erased if it should be desired to change the indexing of any particular plate.

All of the material bearing the same index number is then placed in a heavy brown paper envelope which has the index number in the upper right-hand corner and the corresponding name in the upper left-hand corner. The envelopes should be large enough to take plates cut from the larger architectural publications, be provided with a flap cover with string tie, and be of strong and tough material that will stand much handling without tearing.

These envelopes are then placed on a shelf, vertical file fashion, or in large transfer file-cases, being set in numerical order, the lowest number being in front and the highest in the rear.

The index itself may be arranged on cards, or on the pages of a small, loose-leaf book, the title being on the top edge with the index number in the upper right-hand corner, the cards or pages being arranged alphabetically. The writer is very partial to small, loose-leaf books as compared with cards arranged in boxes, for the reason that they are smaller, take up much less room, and are much more usable in every way.

Some architects have the technical and architectural publications bound every year, but there are many positive objections to such a procedure. It is expensive, takes up much room, and the mass of information scattered through a large number of bound volumes is almost of no value because of its inaccessibility. Even if carefully indexed, which is, of course, entirely possible, using a similar system to the one described here, still the problem of quick availability is not solved; and I think that it is agreed that if information such as this system is designed to care for is of any use at all it must be easily and quickly found. If it is desired to find suggestions for a stairway, plans of large public libraries, suggestive pen-and-ink renderings, standard specifications for cement mortars, or a form for a contractor's bond, it is but a moment's work to look up the proper number in the index and take the envelope out of the file, and all the information about this particular subject will be in that one envelope and not scattered through eight or ten heavy-bound volumes. All the plates showing stairways are in one envelope and may be spread out on a drawing-table and shuffled about to one's heart's content, whereas, if it becomes necessary to take down several heavy bound volumes and turn hundreds of distracting pages to find, perhaps, but one plate in each volume, there is apt to be not a very lengthy looking for inspiration or suggestion.

Not the least advantage of such a system as described here is that it cares for all of the information that comes to an architect's office, no matter what its form or size may be —catalogues, pamphlets, manufacturers' advertising matter, photographs, magazines, fugitive pictures, or what not— whereas it is almost impossible and decidedly impracticable to attempt to bind all of these various types of matter.

And lastly, and this is perhaps most important of all, it enables a man to destroy all matter that does not possess a permanent value or interest.

The most clever man is not he who knows the right heading under which to index a plate, but is he who knows what to destroy and what to preserve, mostly what to destroy.

Legal Decisions of Interest to the Architect

These decisions are edited by Mr. John Simpson, the well-known lawyer

WHAT CONSTITUTES A PERCH OF MASONRY

The following letter has been received by us from a correspondent in Millersburg, Pennsylvania:

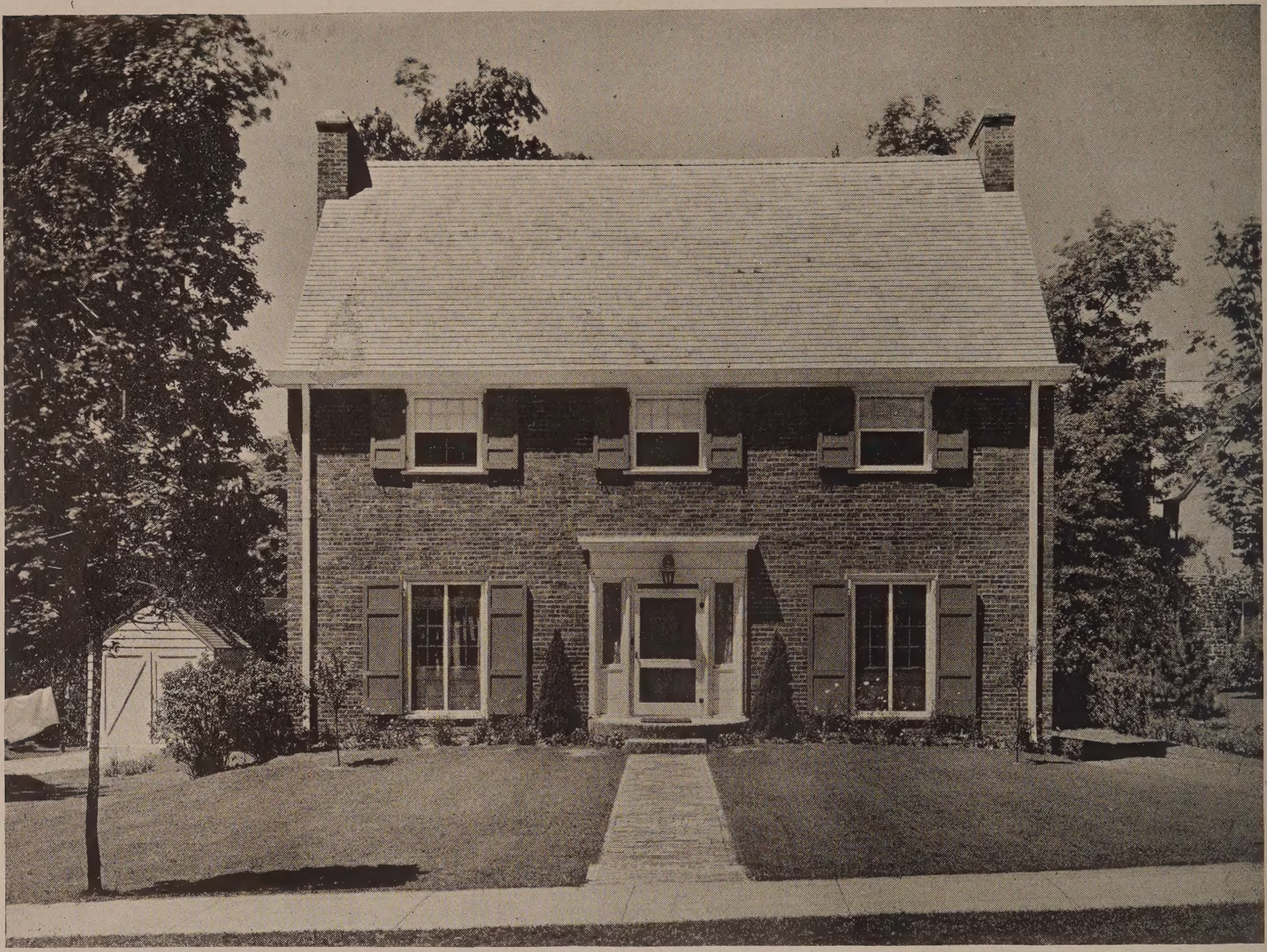
In Harris *vs.* Rutledge (1865), 19 Iowa 388, an action by a stone-mason for work and materials, it appeared that by written contract the plaintiff agreed "to build one rock house, sixteen by eighteen feet in the clear, furnishing everything, except woodwork, at $3.50 per perch." The contract nowhere specified the amount or quantity of which "a perch" should consist. On the trial the plaintiff claimed that it was the understanding of the parties, though it was not expressed in the contract, that a perch should contain only 16½ cubic feet. He also claimed that such was the general custom among masons, or at least was the local custom of that neighborhood. These claims were controverted by the defendant. An Iowa statute provides that "the 'perch' of masonwork or stone is hereby declared to consist of twenty-five feet, cubic measure." It also contains the provision: "Contracts in which no other scale or standard is expressed shall be taken to mean the above."

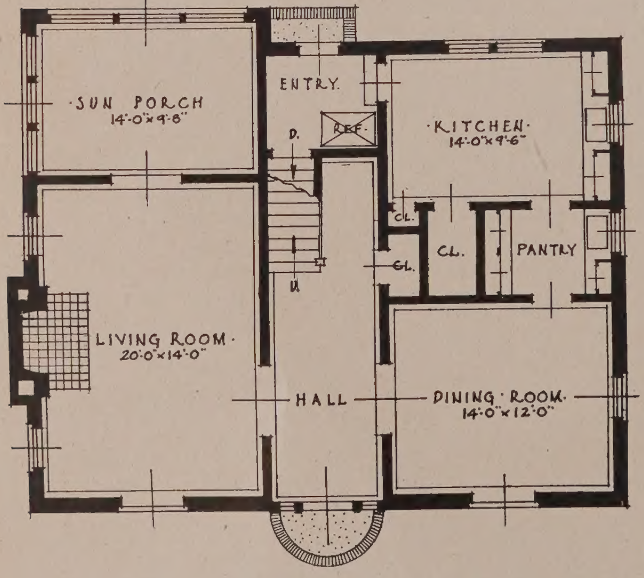
The Iowa Supreme Court held that it was especially proper that the legislature should fix or define a "perch" of masonry, for aside from statute, the amount is not only uncertain but this uncertainty is of a very material character. Webster thus defines it: "In solid measure, a mass 16½ feet long, or a foot each in height and in breadth, or 16½ cubic feet." Worcester gives no definition in solid measure. Many of the arithmetics fail to define a perch, but Robinson (1860), p. 169, says: "A perch of stone or of masonry is 16½ feet long, 1½ feet wide, and 1 foot high, or 24¾ cubic feet." The New American Encyclopedia says: "In masonry, a perch is equal to 25 cubic feet."

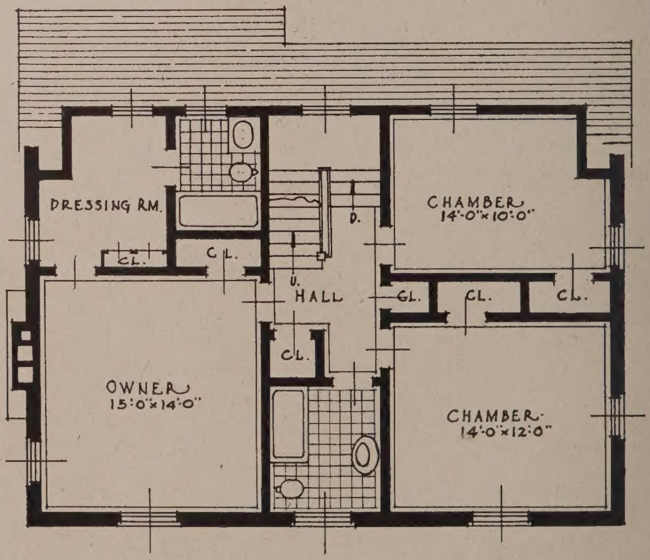
"To obviate this uncertainty," the court continues, "and to secure uniformity throughout the State, were the objects of the statute. If a man in Davenport contracts with an inhabitant of Leclaire for a perch of stone, or with his neighbor mechanic to lay up a perch, the statute binds both parties, and local customs fixing a different measure cannot be set up unless mentioned in the contract. To allow it to be done would nullify the letter and subvert the policy of the statute; would introduce that uncertainty and resulting litigation, which it was the manifest and wise design of the statute to remove and prevent."

Quarry Co. *vs.* Clements (1883), 38 Ohio St. 587, was an action on a written contract to furnish stone for a county bridge, to be paid for "at $4.50 per perch," where the contract was silent as to the number of cubic feet in a perch. The evidence of the usage of the trade failed to show that there was any uniform rule on the subject, being conflicting

(*Continued on page* 319)







HOUSE, CHARLES KIELY, PELHAM MANOR, N. Y. Julius Gregory, Architect.

as to whether 16½ or 25 cubic feet made a perch. The weight of this evidence was, in substance, that in small jobs, such as cellar walls and foundations, in Cleveland and vicinity, the usage was to count 16½ feet to the perch, while in railroad masonry it took 25 feet. As to bridge masonry, such as this was, the evidence failed to show that there was any fixed or definite meaning to the word, or any uniform usage as to the quantity of stone it took to make a perch. The effect of this testimony was that the term perch was ambiguous, and, as applied to this kind of work, might mean 16½ feet or 25 feet indifferently. In this state of the proof, the defendant offered to prove a verbal agreement before and at the time of signing the contract for 18 cents per cubic foot, and that the attorney by whom it was reduced to writing, of his own motion, inserted "$4.50 per perch" instead of 18 cents per cubic foot, which is the same price if 25 feet be counted a perch.

The Ohio Supreme Court held that this evidence was improperly rejected by the trial court. The court said: "Since the adoption of the Revised Statutes (§4433) a perch of masonwork is fixed at 25 feet. Prior to that time, and when this contract was executed, the term was ambiguous as applied to masonwork, other than cellar walls and railroad work. If books are referred to, they furnish no certain guide. Webster says 16½ feet make a perch. Worcester gives no definition in cubic measure. The New American Encyclopedia says 25 feet. In some arithmetics 16½ feet, in others 25, while in others again 24¾ feet are given as a perch. In Haswell's 'Engineers' & Mechanics' Book,' 24¾ feet are given as a perch of stone. In this state of doubt and uncertainty, and in the absence of an express statutory definition, we hold that the rejected testimony was admissible, to show in what sense the word was used in the written contract. It does not tend to vary the terms of the writing. It simply enables the court to ascertain what its terms mean, and to construe and enforce it as the parties intended."

The following dictionary definitions of the word have been given since the above two cases were decided:

The Century Dictionary definition is: "A unit of cubic measure used by stone-masons. It is usually 16½ feet by 1 foot; but it varies greatly." The Standard Dictionary says: "In stonework, a variable measure, usually about 25 cubic feet." The latest edition of Webster's Dictionary defines the term as "a mass 16½ feet long, 1 foot in height, and 1½ feet in breadth, or 24¾ cubic feet (in local use, from 22 to 25 cubic feet); used in measuring stonework."

The Encyclopedia Britannica (Eleventh Edition) says: "As a term of linear measurement, 'perch,' also 'rod' or 'pole,' = 16½ feet = 5½ yards; of superficial area, = 30¼ sq. yds.; 160 perches = 1 acre. As a stone-mason's measure, a 'perch' = 1 linear perch in length by 1½ feet in breadth, and 1 ft. in thickness."

Murray's Oxford Dictionary says: "A solid measure used for stone, containing a lineal perch in length and usually 1½ feet in breadth and 1 foot in thickness; but varying locally, and for different materials."

§ Idaho Pol. Code, 1901, 612, provides that a perch is the standard of measure of stone-masonry, and contains 16½ solid feet.

From the above, it would seem to be a reasonable deduction that in the absence of a statute defining a perch evidence of local usage and custom in the particular trade would be admissible in a controversy as to what constitutes a perch where the contract is ambiguous on the point.

J. S.

Construction of Architects' Certificate—Duties of Architects and Contractors

In an action for a balance claimed to be due for the erection of a concrete building the plaintiff relied, as a final certificate, upon a letter from the architects stating that "the building . . . which you have just completed for the . . . company is accepted, subject, however, to the provision that the various items mentioned in our conversation with your Mr. B. and with Mr. F. are satisfactorily attended to at once." The Massachusetts Supreme Judicial Court holds that the acceptance of a building by the owner, on condition that the contractor is to remedy certain defects of workmanship or materials, is not of itself a final certificate of acceptance which can be treated as conclusive evidence of performance. The contract did not read that the final payment was to be made when the architects had accepted the building, and that such acceptance should be conclusive upon the parties. If it had, a statement signed by them showing acceptance might have been sufficient. They were empowered and required to act as if they were arbitrators, and the final payment was made dependent on their determination, as manifested by their certificate. There could therefore be no conclusive evidence entitling the plaintiff to the balance of the contract price, less such deductions, if any, as they might determine, until this duty of the architects had been performed.

The parties, under the express terms of the contract, were not required to make adjustments by which all disputes should be fixed. It was implied from the instrument as a whole, that as the result of the architects' honest judgment the certificate, or decision, which was to be final, should also be complete. The contractor was entitled to know how much was finally coming to him, concerning which, as the plaintiff contended, there could be no further controversy, and the owner had the right to be informed of the amount he had to pay within the time prescribed, so that he could make the necessary arrangements and avoid being subjected to the costs and annoyance of litigation, to which he might have no defense.

The architects were, under the contract, required in the first instance to determine what sums should be allowed for alterations, as well as whether any deductions were to be made for imperfect or uncompleted work or unsuitable materials, and if neither party dissented their decision was final. Material alterations having been made, it was held that it was the duty of the architects to act as required. But it appeared that when the action was begun the amounts claimed by the plaintiff for changes or alterations or extras ordered had neither been approved by the architects nor submitted to arbitration under the contract as suggested by them. The provision as to alterations did not relieve the contractor from its agreement to perform the work according to the plans and specifications as they had been modified. Under this condition of affairs the owner, it was held, ought not to be deprived of the protection of the contract.

It was held that a certificate under the contract was intended by the parties to mean a statement in writing, authenticated by the signature of the architects, that a final payment, naming the amount, was payable to the contractor under the terms of the contract. The construction of the contract and of the architects' letter, claimed to constitute a final certificate of acceptance, was held to be a question for the court and not for the jury. The defendant's exceptions to a verdict for the plaintiff were sustained. Hennebique Const. Co. *vs.* Boston Cold Storage & Terminal Co. (Mass.), 119 N. E. 948.

Functions, Powers, and Duties of the National War Labor Board

THE functions and powers of the National War Labor Board are as follows:

To bring about a settlement, by mediation and conciliation, of every controversy arising between employers and workers in the field of production necessary for the effective conduct of the war.

To do the same thing in similar controversies in other fields of national activity, delays and obstructions in which may, in the opinion of the National Board, affect detrimentally such production.

To provide such machinery, by direct appointment or otherwise, for the selection of committees or boards to sit in various parts of the country where controversies arise, to secure settlement by local mediation and conciliation.

To summon the parties to the controversy for hearing and action by the National Board in case of failure to secure settlement by local mediation and conciliation.

If the sincere and determined effort of the National Board shall fail to bring about a voluntary settlement and the members of the board shall be unable unanimously to agree upon a decision, then and in that case and only as a last resort an umpire appointed in the manner provided in the next paragraph shall hear and finally decide the controversy under simple rules of procedure prescribed by the National Board.

The members of the National Board shall choose the umpire by unanimous vote. Failing such choice, the name of the umpire shall be drawn by lot from a list of ten suitable and disinterested persons to be nominated for the purpose by the President of the United States.

The National Board shall hold its regular meetings in the city of Washington, with power to meet at any other place convenient for the board and the occasion.

The National Board may alter its methods and practice in settlement of controversies hereunder from time to time as experience may suggest.

The National Board shall refuse to take cognizance of a controversy between employer and workers in any field of industrial or other activity where there is by agreement or Federal law a means of settlement which has not been invoked.

The place of each member of the National Board unavoidably detained from attending one or more of its sessions may be filled by a substitute to be named by such member as his regular substitute. The substitute shall have the same representative character as his principal.

The National Board shall have power to appoint a secretary and to create such other clerical organization under it as may be in its judgment necessary for the discharge of its duties.

The National Board may apply to the Secretary of Labor for authority to use the machinery of the department in its work of conciliation and mediation.

The action of the National Board may be invoked, in respect to controversies within its jurisdiction, by the Secretary of Labor or by either side in a controversy or its duly authorized representative. The board, after summary consideration, may refuse further hearing if the case is not of such character or importance as to justify it.

In the appointment of committees of its own members to act for the board in general or local matters, and in the creation of local committees, the employers and the workers shall be equally represented.

The representatives of the public in the board shall preside alternately at successive sessions of the board or as agreed upon.

The board in its mediating and conciliatory action, and the umpire in his consideration of a controversy, shall be governed by the following principles:

METHOD OF PRESENTING COMPLAINTS AND PROCEDURE OF BOARD

Any person desiring to bring before the National War Labor Board an issue between employer and employees, of which the board has cognizance, shall deliver to the secretary of the board a written statement, signed by him, with his proper post-office address at his home and in Washington. The statement shall contain a brief description of the grievance and the names of the persons or corporations against whom he complains, with their post-office address.

Where an employer and employees both desire to submit a controversy to the board they shall sign a short joint statement of the issue between them, with their respective post-office addresses, and request the action of the board. They shall deliver this signed statement to the secretary of the board.

Industrial Ruin in France

WORKMEN, engineers, and superintendents in factories caught in the north of France when the German army invaded the region have gradually worked their way back to Paris as repatriation has been accomplished. They bring the information that practically nothing remains of the industrial establishments anywhere in the invaded districts, Commercial Attaché Pierce C. Williams reports. Mr. Williams says:

"It is difficult to give any adequate idea of the extent of this damage. While the area that has been under German occupation for almost four years is small, as compared with corresponding regions in the United States, it should be kept in mind that prior to August, 1914, northern and eastern France, with Belgium, constituted one of the world's busiest workshops. In the invaded departments of France alone there were nearly 26,000 factories and industrial establishments. These factories represented more than 30 per cent of the industrial output of all of France.

"Before the war the department now occupied by the enemy furnished France with the following proportion of the country's total production of the articles named: iron ore, 90 per cent; pig iron, 83 per cent; steel, 75 per cent; coal, 70 per cent; combed wool, 94 per cent; linen thread, 90 per cent; sugar, 65 per cent."

Figures representing the cost of construction before the war are given by Mr. Williams. These include: central electric stations and lines of distribution, 250,000,000 francs; machinery and electrical manufacturing plants, 500,000,000 francs; spinning of combed wool (2,400,000 spindles), 192,000,000 francs; spinning of cotton (2,800,000 spindles), 184,000,000 francs; small machine-shops, 350,000,000 francs; coal-mines, 900,000,000 francs; iron-mines, blast-furnaces, and steel-works, 2,500,000,000 francs. These in addition with other leading industries aggregate more than 5,000,000,000 francs, or $1,000,000,000.

Many other flourishing plants with up-to-date instalments have been destroyed.